ORIGINAL

P. Jason Collins
jcollins@rctlegal.com
Jeremy H. Wells
jwells@rctlegal.com
REID COLLINS & TSAI LLP
1301 S. Capital of Texas Hwy., Suite C-300
Austin, Texas 78746
T: (512) 647-6100
F: (512) 647-6129

Yonah Jaffe
yjaffe@rctlegal.com
REID COLLINS & TSAI LLP
810 Seventh Avenue, Suite 410
New York, New York 10019
T: (212) 340-5200
F: (212) 344-5299

UNITED STATES DISTRICT COURT
SOUTHERN DISTRICT OF NEW YORK

UNITED STATES OF AMERICA, *ex rel.* INTEGRA MED ANALYTICS LLC, Plaintiff, v. 1. ISAAC LAUFER, 2. MONTCLAIR CARE CENTER, INC., 3. EAST ROCKAWAY CENTER LLC, 4. EXCEL AT WOODBURY FOR REHABILITATION AND NURSING, LLC, 5. LONG ISLAND CARE CENTER INC., 6. TREETOPS REHABILITATION & CARE, 7. SUTTON PARK CENTER FOR NURSING & REHABILITATION, LLC, 8. SUFFOLK RESTORATIVE THERAPY & NURSING, LLC, 9. OASIS REHABILITATION AND NURSING, LLC, and 10. FOREST MANOR CARE CENTER, INC., Defendants.	Case No.: **ORIGINAL COMPLAINT** **CASE FILED UNDER SEAL PURSUANT TO 31 U.S.C. § 3730**

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This is an action brought by Plaintiff/Relator Integra Med Analytics LLC ("**Relator**") on behalf of the United States of America pursuant to the Federal False Claims Act, 31 U.S.C. § 3729, et seq. In support thereof, Relator alleges as follows:

I.   INTRODUCTION

1.   Relator brings this action to recover more than $129.15 million paid by Medicare and Medicaid to a network of skilled nursing facilities that fraudulently and systematically charged for excessive rehabilitation services.

2.   The Defendant facilities are a large network of New York skilled nursing facilities ("**SNFs**") owned and/or operated by Isaac Laufer (collectively, "**Defendants**").[1] The Laufer facilities systematically provided patients excessive and unnecessary rehabilitation services, and then fraudulently obtained reimbursement for those services from both Medicare and Medicaid.

3.   Between 2011 and 2016, The Laufer facilities received approximately $450 million in Medicare reimbursements for skilled nursing care, and received an estimated $14 million more from Medicaid as coinsurance on Medicare SNF claims. Like all SNFs, Medicare compensated the Laufer facilities according to the quantity of therapy provided to its patients, and Medicaid covered the required copayments for dual-enrolled patients. Thus, increasing the quantity of a patient's therapy leads to a higher per-diem reimbursement from Medicare, and excessive lengths of stay leads to higher copayments from Medicaid. Through its proprietary methodology, Relator has uncovered that Defendants fraudulently billed Medicare and Medicaid for unnecessary and unreasonable "Ultra High Rehab"—the most intensive therapy provided by SNFs—and also kept patients in Ultra High Rehab longer than necessary.[2]

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[1] Laufer owns and/or operates 9 SNFs. Throughout this complaint, these 9 facilities are often referred to as the Laufer facilities.

[2] To be conservative, only the cases with excessive Ultra High Rehab have been identified herein as fraudulent, even though Laufer's excessive billing stretched across every level of rehabilitation services.

4.   There is no legitimate explanation for the Laufer facilities' excessive use of Ultra High Rehab. The Laufer facilities provided excessive Ultra High Rehab to patients diagnosed with conditions across 57 principal diagnosis groups, and the probability that this occurred due to random chance is less than 1 in 100 million. Analyzing it at the facility level, each defendant SNF billed such an excessive amount of Ultra High Rehab that the probability so many facilities are random outliers is also less than 1 in 100 million. In other words, the Laufer facilities' excessive use of Ultra High Rehab is a deliberate, system-wide practice, not the practice of a few rogue facilities.

5.   Relator uncovered the nature and extent of the Laufer facilities' fraud using causal econometric methods. These methods rule out alternative explanations and characteristics that could potentially explain the observed patterns, and confirm that the observed excessive billing for Ultra High Rehab is the result of a centralized and concerted effort by the Laufer facilities to fraudulently maximize Medicare and Medicaid revenue.

6.   **First**, Relator's analysis shows that Laufer facility patients saw a sudden drop in Ultra High Rehab after staying in Laufer facilities for 60, 90, or 100 days—the exact points at which assessments are submitted to the Centers for Medicare & Medicaid Services ("**CMS**") or the point at which the Medicare benefit runs out. In other words, the Laufer facilities are intentionally providing unnecessary Ultra High Rehab up until the very day it would have to justify that rehab to CMS. Tellingly, the Laufer facilities administer Ultra High Rehab for *exactly 60, 90, or 100 days at 5.8 times the rate of other facilities*. Thus, there is a dramatic drop in Laufer facility patients receiving Ultra High Rehab after days 60, 90, and 100 that you do not see at most facilities. Causal econometric methods show that the probability that this drop is random is less than 1 in 100 million.

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7.   **Second**, Relator's fixed-effect regression model rules out the possibility that specific patient characteristics and symptoms justify Laufer facility patients' need for Ultra High Rehab. The regression allowed Relator to isolate the amount of additional Ultra High Rehab a patient received just by being admitted to a Laufer facility, after controlling for the patients' demographics and medical factors. This analysis further shows that Laufer facility patients are not receiving Ultra High Rehab because of medical need, but rather because of the Laufer facilities' fraudulent billing practices.

8.   **Third**, when Laufer acquired two SNFs in 2013, Relator found a statistically and economically significant increase in the amount of Ultra High Rehab provided to patients at those facilities after the acquisitions occurred. This increase is highly significant even after controlling for potential changes in patient and demographic characteristics after the acquisition, which indicates that it is Laufer that is responsible for the excessive Ultra High Rehab that was billed to Medicare.

9.   **Fourth**, Relator's analysis further uncovered that when the exact same physician has patients at both Laufer facilities and other facilities, the physician's Laufer facility patients receive significantly more intensive rehab. In other words, Laufer facilities—rather than doctors—drive their patients' unnecessary Ultra High Rehab. Moreover, the large statistical significance of this effect demonstrates that it is a system-wide and profit-maximizing directive by Laufer facilities to provide excessive rehab.

10.   **Fifth**, Relator analyzed patients receiving care at both Laufer facilities and other facilities to rule out that the Ultra High Rehab was due to unique uncontrolled-for patient characteristics at Laufer facilities. Relator's analysis confirmed that such patients received significantly more Ultra High Rehab at Laufer facilities.

11.   In short, Relator has determined Laufer facilities have and continue to engage in fraudulent billing to Medicare and Medicaid for both excessive and unnecessary Ultra High Rehab. Through their fraudulent practices, between 2011 and 2016, Laufer facilities submitted more than $129.15 million in false claims for Medicare reimbursement and additional false claims for reimbursement from Medicaid in an amount to be proven at trial.[3]

II.   JURISDICTION AND VENUE

12.   This Court has jurisdiction over this action pursuant to 31 U.S.C. § 3732(a) and 28 U.S.C. § 1331.

13.   Venue is proper in this District under 31 U.S.C. § 3732(a) and 28 U.S.C. § 1391(b) and (c). During the relevant time period, a substantial portion of the events complained of that gave rise to Plaintiff's claims occurred in this District in violation of 31 U.S.C. § 3729 and § 3730. Further, 31 U.S.C. § 3732(a) provides for nationwide service of process.

14.   There has been no public disclosure of the allegations herein. To the extent that there has been a public disclosure unknown to Relator, Relator is an "original source" under 31 U.S.C. § 3730(e)(4). Relator has direct and independent knowledge of the information on which the allegations are based and voluntarily provided the information to the Government before filing this *qui tam* action based on that information. *See* 31 U.S.C. § 3730(e)(4).

III.   PARTIES

15.   Relator Integra Med Analytics LLC is a Texas limited liability company with its principal place of business in Austin, Texas.

16.   Relator is an associated company of Integra Research Group LLC, which specializes in using statistical analysis to uncover and prove fraud. Integra Research Group LLC's

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[3] The Laufer facilities' false claims to Medicaid arise from coinsurance payments for Medicare patients that were dual enrolled in Medicaid. If the Laufer facilities' Medicare patients were dual enrolled in Medicaid at a similar rate to county-level averages, Relator estimates that the Laufer facilities submitted approximately $4.16 million to Medicaid.

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sister company, Integra REC LLC, has extensive experience using statistical analysis to detect and prove fraud, specifically in mortgage-backed securities and other financial markets. Integra REC LLC has successfully initiated and settled cases under the False Claims Act.

17.   Defendant Isaac Laufer owns, operates, and/or controls the Defendant facilities. He is a resident of Orange County, New York. Upon information and belief, Laufer may be served at 120 Strawberry Lane, Newburgh, New York 12550.

18.   Defendant Montclair Care Center, Inc. ("**Montclair**") is a New York corporation located at 2 Medical Plaza, Glen Cove New York 11542. Montclair is an SNF with the assigned National Provider Identifier ("**NPI**") number 1639234149.[4]

19.   Defendant East Rockaway Center LLC ("**East Rockaway**") is a New York limited liability company located at 243 Atlantic Avenue, Lynbrook, New York 11563. East Rockaway is an SNF with the assigned NPI number 1265724298.

20.   Defendant Excel at Woodbury for Rehabilitation and Nursing, LLC ("**Excel**") is a New York limited liability company located at 8533 Jericho Turnpike, Woodbury, New York 11797. Excel is an SNF with the assigned NPI number 1376989376.

21.   Defendant Long Island Care Center, Inc. ("**Long Island**") is a New York corporation located at 144-61 38th Avenue, Flushing, New York 11354. Long Island is an SNF with the assigned NPI number 1780661785.

22.   Defendant Treetops Rehabilitation & Care Center LLC ("**Treetops**") is a New York limited liability company located at 3550 Lexington Avenue, Mohegan Lake, New York 10547. Treetops is an SNF with the assigned NPI number 1427100064.

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[4] An NPI number is a unique identification number assigned to health care providers by the Centers for Medicare and Medicaid Services ("**CMS**").

23.   Defendant Sutton Park Center for Nursing & Rehabilitation LLC ("**Sutton Park**")

is a New York limited liability company located at 31 Lockwood Avenue, New Rochelle, New

York 10801. Sutton Park is an SNF with the assigned NPI number 1376788513.

24.   Defendant Suffolk Restorative Therapy & Nursing LLC ("**Suffolk**") is a New York

limited liability company located at 340 East Montauk Highway, East Islip, New York 11730.

Suffolk is an SNF with the assigned NPI number 1508167230.

25.   Defendant Oasis Rehabilitation and Nursing, LLC ("**Oasis**") is a New York limited

liability company located at 6 Frowein Road, Center Moriches, New York 11934. Oasis is an SNF

with the assigned NPI number 1316360845.

26.   Defendant Forest Manor Care Center, Inc. ("**Forest Manor**") is a New York

corporation located at 6 Medical Plaza, Glen Clove, New York 11542. Forest Manor is an SNF

with the assigned NPI number 1366438418.

IV.   SUBSTANTIVE ALLEGATIONS

A.   Overview of Medicare Reimbursement for Skilled Nursing Rehab

27.   SNFs are designed to provide skilled care, including nursing and rehabilitation

services, following an inpatient hospital stay. To be eligible for Medicare benefits for SNFs, a

beneficiary must have an inpatient hospital stay of at least three days. Medicare will cover up to

100 days of SNF care per illness, and beginning on the 21st day of skilled nursing care, the

beneficiary is responsible for a daily copayment of approximately $150.[5] This copayment may be

covered by another form of insurance, including Medicaid.

28.   Medicare reimburses SNFs at a per-diem rate based on one of 66 resource

utilization groups ("**RUGs**"), which is determined by the amount of therapy and other services

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[5] *See, e.g.,* Medpac, *SNF Services Payment System* at 1 (Oct. 2015), *available at* https://goo.gl/n3FA1p. The average
daily coinsurance for SNFs from 2011 through 2016 was $150.75.

provided to patients. The RUGs can further be simplified into a few categories based on the amount of rehab provided. The highest category, referred to as Ultra High Rehab, is for patients receiving more than 720 minutes of rehab in a week. The lowest category, referred to as Low Rehab, represents patients receiving between 45 and 149 minutes of rehab per week. There are also patients who receive less than 45 minutes of rehab per week, but receive other types of skilled nursing services, which Relator has categorized as No Rehab. The highest categories of rehab are reimbursed at a higher rate than the lower categories of rehab, with the categories being differentiated based only on the quantity of rehab provided per week. Within each therapy category, the payment can vary for individual RUGs based on a patient assessment and other services provided. Relator's analysis focuses solely on the quantity of rehab provided.[6] These broad SNF RUG reimbursement categories are included in Table 1 below.

Table 1. Broad SNF RUG categories.
The following table shows the SNF categories based on the required weekly therapy amounts. Physical therapy, occupational therapy, and speech pathology all count towards the required therapy amounts.

Category	Therapy Amount
Ultra High Rehab	720+ minutes per week
Very High Rehab	500 – 720 minutes per week
High Rehab	325 – 499 minutes per week
Medium Rehab	150 – 324 minutes per week
Low Rehab	45 – 150 minutes per week
No Rehab	Less than 45 minutes per week

29.   To receive Medicare coverage for skilled nursing services, the patient must be covered under Medicare Part A, have a qualifying inpatient hospital stay, and require skilled services to be provided for an ongoing condition treated during the hospital stay or a new condition acquired since the beneficiary started receiving skilled nursing care.[7] Additionally, the skilled services must be reasonable and necessary for the diagnosis or treatment of the condition.[8]

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[6] *See generally id.*

[7] *See* Centers for Medicare and Medicaid Services, *Medicare Coverage of Skilled Nursing Facility Care* 17 (Jan. 2015), available at https://goo.gl/Ms63mQ.

[8] *Id.* at 18.

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30.   A series of assessments are required to determine the reasonableness and necessity of skilled services provided, including the amount of rehab provided and consequently the resource utilization group and corresponding per-diem reimbursement amount. Daily assessments are conducted by staff at the SNF and these assessments must be periodically recorded and submitted to CMS. The initial assessment must be submitted to CMS within 8 days, and subsequent recorded assessments must be done on days 14, 30, 60, and 90 days.[9] Additional assessments are required when necessary to account for significant changes in the patient's condition.[10] These assessments are typically coordinated by a registered nurse at the SNF, along with the participation of other healthcare professionals;[11] the patient's plan of care is ultimately determined by a doctor's orders and the results of these reported assessments.[12]

31.   By increasing the quantity of rehab provided, without otherwise changing any other care to a patient, an SNF can move the patient's claim to a higher RUG category and therefore get a higher pre-diem payment amount. For example, the RUGs in the category for Ultra High Rehab pay anywhere between $500 and $785 per day, depending on other patient characteristics and services provided. Care for patients in the lower category of Medium Rehab is reimbursed from $300 to $580 per day, depending on patient characteristics and services provided. Therefore, even just reclassifying patients from the Medium category to the Ultra High category would typically yield an extra $200 per day per patient.[13] Treating patients for Ultra High Rehab when the patient

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[9] *Id.* at 25.

[10] *Id.*

[11] *See* Centers for Medicare and Medicaid Services, *Medicare-Required SNF PPS Assessments* (Oct. 2016), available at https://goo.gl/DtDK4e.

[12] *Id.*

[13] The SNF per-diem reimbursement amount is further adjusted based on the facility's location to reflect the additional cost incurred in some metropolitan areas. Relator has ignored those adjustments in order to focus on the marginal revenue that is attributed solely to its increased use of Ultra High Rehab. Accounting for these adjustments would only increase the marginal revenue Laufer facilities receive through its excessive billing of Ultra High Rehab.

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no longer requires any skilled nursing services would yield an additional $580 a day on average. Thus, systems like the Laufer facilities have an economic incentive to push for more rehab treatment beyond what is considered medically reasonable or necessary.

B.   Relator's Methodologies

32.   To detect patterns of fraud at Laufer facilities, Relator employed unique algorithms and statistical processes to analyze SNF Medicare claims data obtained from CMS.[14] These proprietary methods have allowed Relator to identify with specificity the false claims made by the Defendant to fraudulently inflate revenue on Medicare claims. Relator's analysis focused on identifying excessive amounts of Ultra High Rehab beyond what would be considered reasonable or beneficial to patients given a particular illness, including instances where the patients no longer required any skilled nursing care.

33.   To identify truly egregious patterns of excessive Ultra High Rehab, Relator employed a methodology that accounts for patient medical characteristics in determining the necessity of rehab. Specifically, Relator compared the rate of Ultra High therapy provided at Laufer facilities to the rate of Ultra High therapy provided at other SNFs for patients with comparable principal diagnosis codes at their prior inpatient hospital stay. This benchmarking process is consistent with Medicare guidelines requiring that skilled nursing services be reasonable and necessary for the treatment of the specific medical condition.[15]

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[14] Only claims for patients admitted on or after January 1, 2011, and prior to October 1, 2016, were analyzed by the Relator to allow for analysis of the patient's entire length of stay. Relator also analyzed the associated inpatient hospital claims data from CMS for the SNF patients.

[15] See Centers for Medicare and Medicaid Services, Medicare Coverage of Skilled Nursing Facility Care at 18 (Jan. 2015), available at https://goo.gl/Ms63mQ.

34.   To conduct its analysis, Relator formed 589 groupings (or "**bins**") of similar

principal diagnosis codes, of which 57 were relevant to Laufer facilities' claims.[16] Within each of

the bins Relator compared the average days of Ultra High Rehab at Laufer facilities to the average

days of Ultra High Rehab billed at all other SNFs receiving Medicare reimbursements as a

benchmark. While Relator's precise benchmarking of medical billing is unique, experts have

developed and applied similar benchmarks in financial return literature.[17] Benchmarking has the

advantage of allowing for very specific and comparative groupings. This avoids imposing specific

linearity on the data, which in turn gives Relator's methodology more statistical power and

precision.

35.   Given that some natural variation in days of Ultra High Rehab among SNFs is

expected, Relator used two filters to further ensure that it identified truly extremely abnormal

usage. First, bins were only included where Laufer facilities' days of Ultra High Rehab were either

more than twice the national rate or were *five days longer than at other facilities*. Second, Relator

validated the results of its analysis by determining the statistical significance of each pattern used

by Laufer facilities.[18] Relator only flagged claim groupings where there was less than a *1 in 1,000*

chance of Relator's findings being due to chance.

36.   For example, Laufer facilities have many patients that were diagnosed with

"Unspecified Septicemia"[19] during their preceding inpatient hospital stay. Relator has found that,

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[16] Relator included in the analysis any principal diagnosis categories that were used at least 100 times by Laufer facilities.

[17] See the widely-used methodology developed by Kent Daniel, Mark Grinblatt, Sheridan Titman, Russ Wermers, *Measuring Mutual Fund Performance with Characteristic- Based Benchmarks*, The Journal of Finance, vol. 52(3) at 1035–1058 (1997). This methodology is first applied to measuring hedge-fund performance by John M. Griffin and Jin Xu, *How Smart Are the Smart Guys? A Unique View from Hedge Fund Stock Holdings*, Review of Financial Studies, Vol. 22.7 at 2531–2570 (2009).

[18] Relator's statistical significance is calculated by comparing the mean days of Ultra High Rehab at Laufer versus other facilities.

[19] Unspecified Septicemia includes ICD-9 diagnosis codes 0388, 0389, 449, 77181, 7907, 99591, and 99592.

of Laufer facilities' 1,380 admissions with "Unspecified Septicemia," the average patient received 25.01 days of Ultra High Rehab. However, for the more than 700,000 patients admitted with "Unspecified Septicemia" at the nation's other SNFs, the average patient only received 12.47 days of Ultra High Rehab. In other words, Laufer facility patients received twice as much Ultra High Rehab at an average cost of $580 per day.

37.   To control for other explanations for the additional therapy billed at Laufer facilities, Relator employed a fixed effect linear regression model with additional controls for patient characteristics. Regression analysis is well-established and has been used to pinpoint actors behind misreporting in financial and economic contexts.[20] The fixed effect linear regression analysis thus examines if Laufer facilities gave Ultra High Rehab beyond what could be explained by diagnosis and patient characteristics. Through the regression, Relator isolated the amount of additional Ultra High Rehab a patient received just because of Laufer facility characteristics, since it controls for a variety of patient characteristics including age, gender, and race, as well as county demographic factors such as the unemployment rate, log median income, and urban-rural differences. Patient health characteristics and severity of illness are controlled by variables including the principal and secondary diagnosis codes of the patient's prior inpatient hospital visit, the existence of surgery, and the inpatient claim length of stay. This analysis again shows that the Ultra High Rehab being offered at Laufer facilities is well outside acceptable norms, even after accounting for patient need.

38.   Additional analyses performed by Relator rule out alternative explanations for why Laufer facilities had an excessive amount of Ultra High Rehab. Relator ruled out that the excessive

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[20] Tomasz Piskorski, Amit Seru, and James Witkin, *Asset Quality Misrepresentation by Financial Intermediaries: Evidence from the RMBS Market*, The Journal of Finance, Vol. 70.6 at 2635–2678 (2015); John M. Griffin and Gonzalo Maturana, *Who Facilitated Misreporting in Securitized Loans?*, Review of Financial Studies, Vol. 29.2 at 384–419 (2016).

Ultra High Rehab was caused by the attending physician at the SNF or the attending physician during the patient's inpatient hospital stay. Indeed, physicians treating both Laufer facility patients and patients at other facilities had a much lower level of rehab at other facilities, indicating that it is Laufer facilities rather than doctors driving Ultra High rehab treatment. Relator also analyzed patients that received care at both Laufer facilities and at other facilities to rule out that the excessive Ultra High Rehab was due to unique patient populations at Laufer facilities. After considering these factors, Relator shows that the cause of the excessive Ultra High Rehab can be attributed to Laufer facilities directly.

C.   Defendants' False Claims

1.   Laufer Facilities' False Claims for Reimbursement

A.   Laufer Facilities Consistently Use Excessive Ultra High Rehab Across 57 Principal Diagnosis Groups

39.   Laufer facilities fraudulently and consistently billed for excessive rates of Ultra High Rehab. To establish this finding, Relator assesses patients' medical need for rehab by categorizing patients according to 57 specific medical bins that are grouped by the principal diagnosis during the hospital stay prior to their admission to an SNF. Within each bin of patients with the same inpatient principal diagnosis, Relator compared Laufer facilities' rate of Ultra High Rehab to the rate of Ultra High Rehab at other facilities. For example, nationwide, the average patient with "Pneumonia; Organism Unspecified" will end up receiving approximately 12 days of Ultra High Rehab, whereas the average patient with "Fracture of Neck of Femur (hip)" will end up receiving approximately 21 days of Ultra High Rehab. Relator's method accounts for the expectation that certain diagnoses might require greater amounts of Ultra High Rehab on average.

40.   The bin-based comparison of the rate of Ultra High Rehab at Laufer facilities versus at other facilities demonstrates Laufer facilities' systematic effort to excessively bill Medicare for Ultra High Rehab. Panel A of Figure 1 shows rates of Ultra High Rehab at Laufer facilities on the

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x-axis (horizontal) and the rates of Ultra High Rehab at all other SNFs on the y-axis (vertical). Each dot in Panel A represents a principal diagnosis code group (bin) that Laufer facility patients had at their prior inpatient hospital stay. The size of the dots is proportional to the number of claims at Laufer facilities, so that larger dots represent proportionally more claims. If the rates of Ultra High Rehab at Laufer facilities for each diagnosis code were similar to the rates at other SNFs, then the dots would cluster on the 45-degree line. In Panel A, the red dots to the right of the 45-degree line show that Laufer facilities had higher rates of Ultra High Rehab for patients in *every single one of 57 inpatient principal diagnosis groups*. The graph demonstrates that Laufer facilities' use of Ultra High Rehab is not due to having sicker patients, but rather is widespread even after controlling for patient's hospital diagnosis prior to admission to an SNF. Additionally, Relator determined that the excess amount of Ultra High Rehab for patients of all 57 inpatient principal diagnosis groups was statistically significant. Each group had a less than 1 in 1,000 chance the difference in average Ultra High Rehab was due to chance.

41.   Panel B of Figure 1 shows the distribution of the number of days of Ultra High Rehab administered to patients for all principal diagnosis codes, with Laufer facilities in red and other facilities in blue. For other facilities, the number of days of Ultra High Rehab peaks at day 12.82, indicating that most patients at other facilities receive on average 12.82 days of rehab and very few receive more than 25. However, for Laufer facilities, the distribution is shifted significantly to the right, peaking at 30.56 days of Ultra High Rehab. This also shows that Laufer facilities have many more days of Ultra High Rehab across the principal diagnosis categories spectrum when compared to patients with the same principal diagnosis categories at non-Laufer facilities.

42.   Thus, Laufer facilities do not specialize in providing Ultra High Rehab to particular types of patients with particular illnesses, but instead bill for excessive Ultra High Rehab

indiscriminately across all of the patient diagnoses it sees. The probability that random chance accounts for Laufer facilities' higher days of Ultra High Rehab relative to other facilities for all 57 inpatient diagnosis groups is less than 1 in 100 million, strongly indicating the amount of rehab provided was not anywhere close to the norms of medical practice.

Figure 1. Average Days of Ultra High Rehab Based on Inpatient Principal Diagnosis for Laufer Facilities Versus Other Facilities.
Panel A shows, for 57 inpatient principal diagnoses (each represented by a dot), the average Ultra High Rehab treatment length for patients thus diagnosed at Laufer facilities versus at non-Laufer facilities. We include only diagnoses where at least 100 patients were thus diagnosed at Laufer facilities. Panel B shows the distribution of average days of Ultra High Rehab at Laufer facilities versus at non-Laufer facilities for each of the principal diagnosis groups.

Panel A: Scatterplot of Average Ultra High Rehab by Inpatient Principal Diagnosis
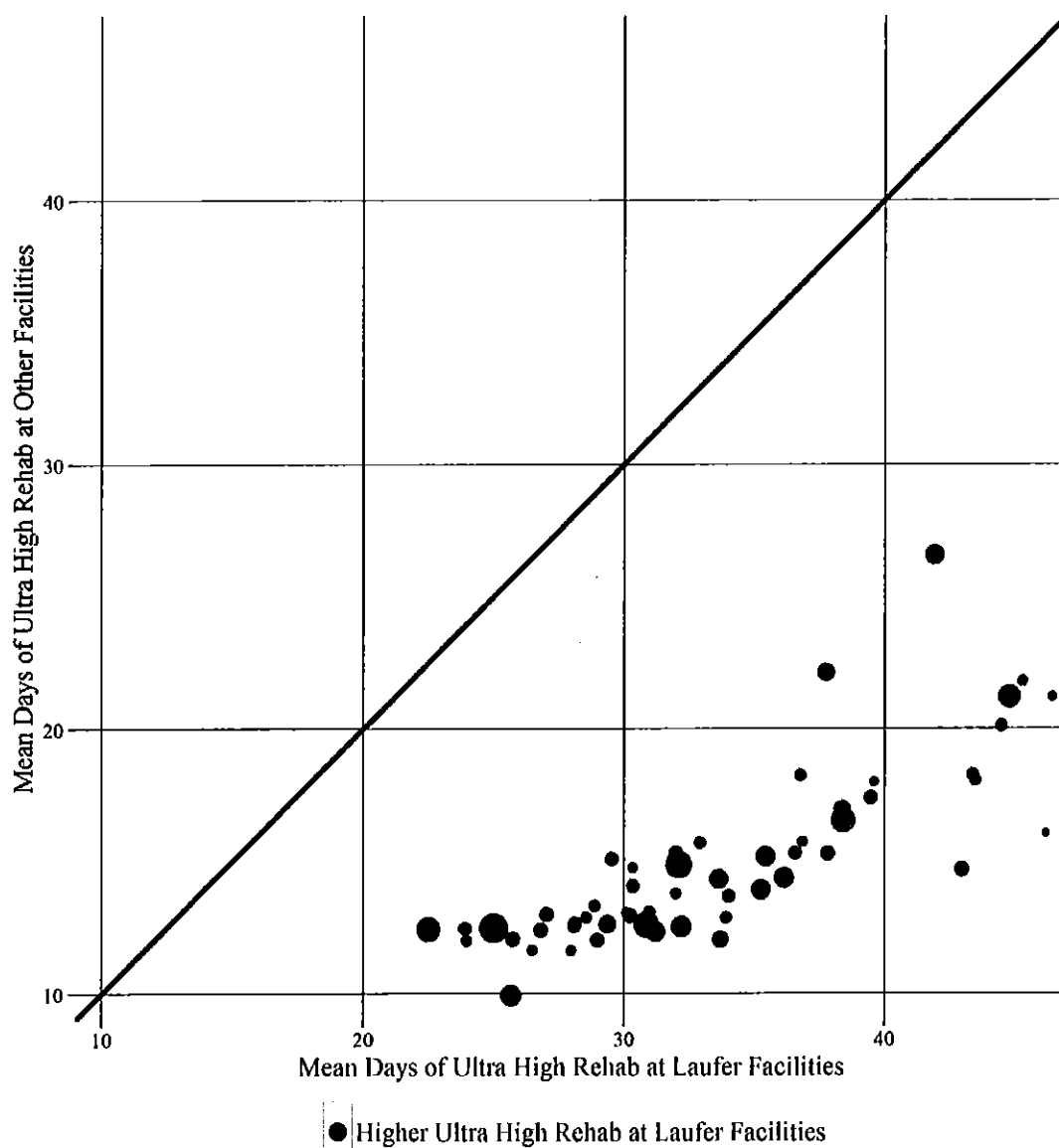
Higher Ultra High Rehab at Laufer Facilities

Panel B: Distribution of Average Days of Ultra High Rehab by Principal Diagnosis

■Laufer Facilities■Non-Laufer Facilities
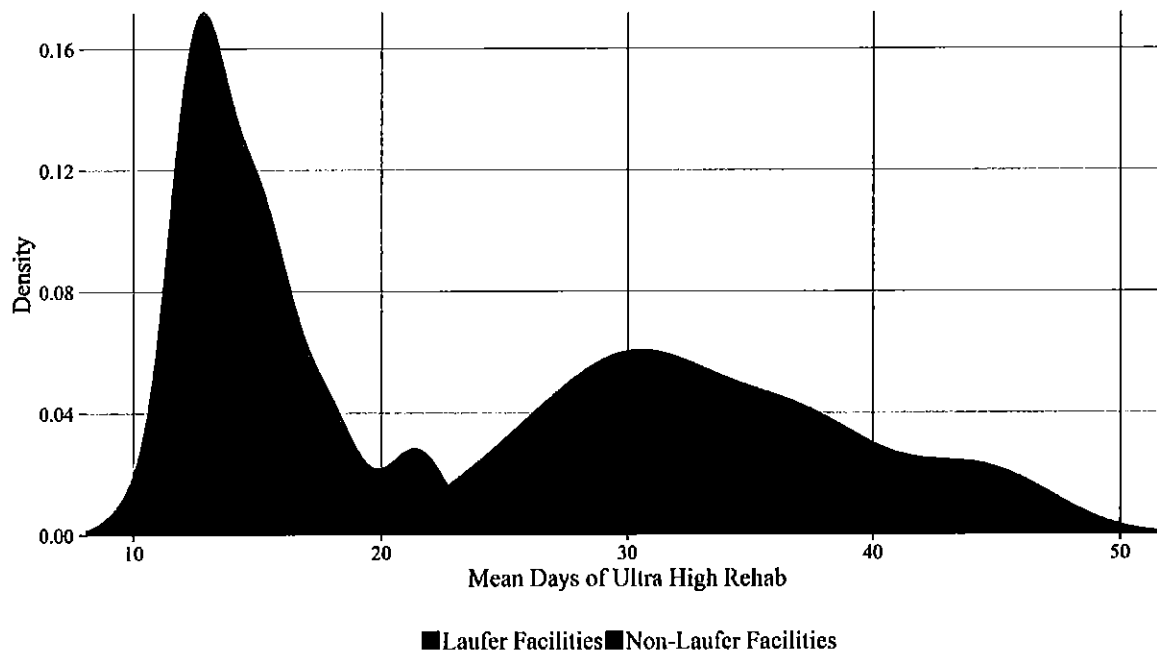
43.   Figure 2 below shows the top 20 inpatient diagnoses for patients who receive skilled nursing services at Laufer facilities. The amount of days at Ultra High Rehab for Laufer facilities is the red bar and the amount of days of Ultra High Rehab for all other SNFs are the blue bars. The graph shows that Laufer facilities use Ultra High Rehab across *all 20* most common principal diagnosis categories at a much greater rate than other SNFs.

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Figure 2. Rate of Ultra High Rehab for patients with the 20 most common inpatient principal diagnosis categories.
The following figure shows the twenty most prevalent inpatient diagnosis codes and compares the average days of Ultra High Rehab at Laufer facilities versus other facilities. The diagnosis codes are ordered by the frequency with which they occur at Laufer facilities, from most common to least common. For example, Unspecified Septicemia is the most common principal diagnosis code from the inpatient stay, occurring in 1,380 claims at Laufer facilities.

Last Inpatient Principal Diagnosis Category

■ Laufer Facilities ■ Non-Laufer Facilities
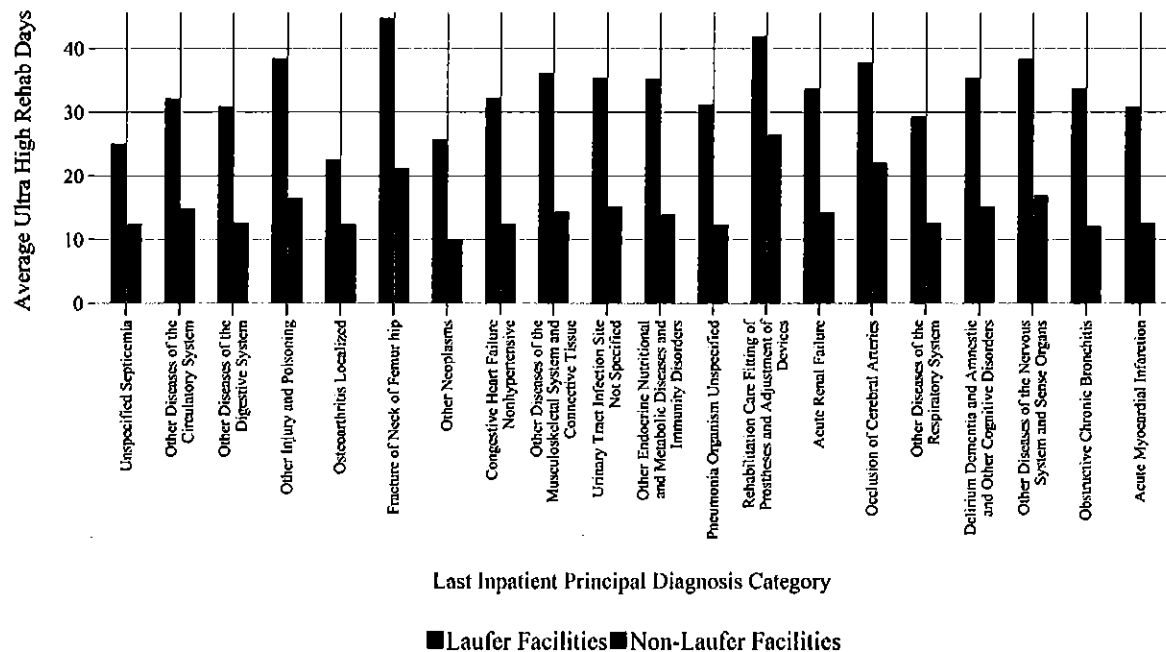
44.   To illustrate Laufer facilities' excessive Ultra High Rehab, Laufer facilities had 1,027 patients diagnosed with "Other Diseases of the Digestive System" during their inpatient hospital stay prior to admission. These patients on average received 30.87 days of Ultra High Rehab at Laufer facilities. However, patients at other SNFs who were diagnosed with "Other Diseases of the Digestive System" only received 12.59 days of Ultra High Rehab on average.

45.   Table 2 provides a detailed comparison of the rate of Ultra High Rehab across all of the 57 principal diagnosis codes, and demonstrates again how Laufer facilities provide significantly more Ultra High Rehab than do other SNFs. The difference between Ultra High Rehab usage at Laufer facilities and at the other facilities within each principal diagnosis grouping

is extremely statistically significant, such that the probability that each of these differences could

be due to random chance is less than one in 100 million for most principal diagnosis groupings.[21]

Table 2. Ultra High Rehab by Principal Diagnosis Code Group.

Principal Diagnosis Group	# Admissions Laufer	Avg. Days of Ultra High at Laufer Facilities	Avg. Days of Ultra High at Other Facilities	Laufer Facility Rate Relative to Others	Statistical Significance[22]
Unspecified Septicemia	1380	25.01	12.47	201%	< 1 in 100 Million
Other Diseases of the Circulatory System	1132	32.11	14.86	216%	< 1 in 100 Million
Other Diseases of the Digestive System	1027	30.87	12.59	245%	< 1 in 100 Million
Other Injury and Poisoning	860	38.41	16.53	232%	< 1 in 100 Million
Osteoarthritis; Localized	856	22.51	12.43	181%	< 1 in 100 Million
Fracture of Neck of Femur (hip)	735	44.76	21.21	211%	< 1 in 100 Million
Other Neoplasms	598	25.68	9.92	259%	< 1 in 100 Million
Congestive Heart Failure; Nonhypertensive	589	32.23	12.51	258%	< 1 in 100 Million
Other Diseases of the Musculoskeletal System and Connective Tissue	533	36.14	14.36	252%	< 1 in 100 Million
Urinary Tract Infection; Site Not Specified	524	35.45	15.18	234%	< 1 in 100 Million
Other Endocrine; Nutritional; and Metabolic Diseases and Immunity Disorders	523	35.26	13.92	253%	< 1 in 100 Million
Pneumonia; Organism Unspecified	503	31.21	12.33	253%	< 1 in 100 Million
Rehabilitation Care; Fitting of Prostheses; and Adjustment of Devices	482	41.91	26.56	158%	< 1 in 100 Million
Acute Renal Failure	473	33.65	14.32	235%	< 1 in 100 Million
Occlusion of Cerebral Arteries	386	37.77	22.12	171%	< 1 in 100 Million
Other Diseases of the Respiratory System	380	29.36	12.59	233%	< 1 in 100 Million
Delirium Dementia and Amnestic and Other Cognitive Disorders	357	35.42	15.18	233%	< 1 in 100 Million
Other Diseases of the Nervous System and Sense Organs	350	38.37	16.94	227%	< 1 in 100 Million
Obstructive Chronic Bronchitis	322	33.71	12.04	280%	< 1 in 100 Million
Acute Myocardial Infarction	265	30.87	12.65	244%	< 1 in 100 Million

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[21] The probability is even considerably smaller in many cases, often less than 1 in 1 Trillion, but we use this as a cutoff since the value is already incredibly small. All tests are under the two-sample z-test to compare the average days of Ultra High Rehab at other facilities to Laufer facilities' average days of Ultra High Rehab. This test relies on a standard normal distribution.

[22] The statistical significance of these represents the probability that the difference between the average days of Ultra High Rehab at Laufer facilities and other facilities is due to random occurrences.

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Principal Diagnosis Group	# Admissions Laufer	Avg. Days of Ultra High at Laufer Facilities	Avg. Days of Ultra High at Other Facilities	Laufer Facility Rate Relative to Others	Statistical Significance[22]
Infection and Inflammation--internal Prosthetic Device; Implant; and Graft	257	25.73	12.06	213%	< 1 in 100 Million
Cellulitis and Abscess of Leg	246	42.96	14.67	293%	< 1 in 100 Million
Respiratory Failure	240	30.24	12.93	234%	< 1 in 100 Million
Other Diseases of the Blood and Blood-forming Organs	239	26.81	12.40	216%	< 1 in 100 Million
Aspiration Pneumonitis; Food/vomitus	231	27.04	12.97	208%	< 1 in 100 Million
Other Mental Illness	229	37.82	15.28	247%	< 1 in 100 Million
Syncope	225	39.46	17.39	227%	< 1 in 100 Million
Other Symptoms; Signs; and Ill-defined Conditions and Factors Influencing Health Status	224	32.01	15.31	209%	< 1 in 100 Million
Other Diseases of the Skin and Subcutaneous Tissue	221	28.97	12.02	241%	< 1 in 100 Million
Other Infectious and Parasitic Diseases	210	28.13	12.63	223%	< 1 in 100 Million
Malfunction of Device; Implant; and Graft	207	29.54	15.07	196%	< 1 in 100 Million
Diabetes with Other Manifestations	207	30.34	14.04	216%	< 1 in 100 Million
Atrial Fibrillation	196	34.03	13.67	249%	< 1 in 100 Million
Hypovolemia	193	36.56	15.31	239%	< 1 in 100 Million
Hemorrhage of Gastrointestinal Tract	179	28.10	12.52	224%	< 1 in 100 Million
Osteoarthritis; Generalized and Unspecified	177	23.92	12.45	192%	< 1 in 100 Million
Fracture of Vertebral Column Without Mention of Spinal Cord Injury	177	43.37	18.25	238%	< 1 in 100 Million
Fracture of Pelvis	164	44.45	20.11	221%	< 1 in 100 Million
Intestinal Infection	159	33.94	12.86	264%	< 1 in 100 Million
Other Diseases of the Genitourinary System	157	30.99	13.07	237%	< 1 in 100 Million
Epilepsy	152	32.93	15.69	210%	< 1 in 100 Million
E. Coli Septicemia	145	28.87	13.31	217%	< 1 in 100 Million
Other Intracranial Injury	145	36.77	18.24	202%	< 1 in 100 Million
Other Connective Tissue Disease	140	43.47	18.03	241%	< 1 in 100 Million
Postoperative Infection	140	28.55	12.85	222%	< 1 in 100 Million
Pathological Fracture	139	38.40	16.30	236%	< 1 in 100 Million
Alcohol-related Disorders	135	32.00	13.78	232%	< 1 in 100 Million
Other Gram Negative Septicemia	134	23.96	12.00	200%	< 1 in 359 Thousand
Hypertensive Heart And/or Renal Disease	131	30.11	13.04	231%	< 1 in 100 Million
Staphylococcal Septicemia	127	26.49	11.63	228%	< 1 in 53 Million
Congestive Heart Failure	124	27.98	11.62	241%	< 1 in 100 Million
Other Residual Codes; Unclassified; All E Codes	122	36.84	15.73	234%	< 1 in 100 Million

Principal Diagnosis Group	# Admissions Laufer	Avg. Days of Ultra High at Laufer Facilities	Avg. Days of Ultra High at Other Facilities	Laufer Facility Rate Relative to Others	Statistical Significance[22]
Fracture of Humerus	120	45.25	21.80	208%	< 1 in 100 Million
Other Venous Embolism and Thrombosis	120	30.33	14.75	206%	< 1 in 100 Million
Other Fracture of Lower Limb	111	46.41	21.23	219%	< 1 in 100 Million
Transient Cerebral Ischemia	111	39.58	17.99	220%	< 1 in 100 Million
Other Nervous System Symptoms and Disorders	102	46.16	16.05	288%	< 1 in 100 Million

B.   The Excessive Use of Ultra High Rehab is Systemic Across Laufer Facilities and not Limited to a Few Facilities

46.   To rule out that excessive billing of Ultra High Rehab is unique to a few Laufer facilities, Relator analyzed these trends for individual Laufer facilities and compared them to other individual SNFs. Figure 3 shows the average length of Ultra High Rehab provided to patients at all facilities in the United States and is ordered from facilities with the least Ultra High Rehab to facilities with the most. The trend of excessive Ultra High Rehab is prevalent across Laufer facilities. All 9 Laufer facilities are in at least the 97th percentile of all facilities based on average days of Ultra High Rehab. Out of more than 15,000 facilities with at least 100 Medicare patients, Laufer facilities have 9 facilities in the top 1,000 facilities. It is difficult to overstate how mathematically impossible it would be for this scenario to exist due to random chance. The probability of Laufer facilities randomly having 9 out of 9 facilities in the top 1,000 is less than 1 in 100 million.[23] Thus the behavior cannot be attributed to a few rogue facilities, but is instead systemic throughout the Laufer system.

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[23] This statistical probability is based on the uniform distribution. In this case, since there are more than 15,000 SNFs, the top 1,000 facilities would be equivalent to the top 7% of facilities. Hence, we should only expect that 7% of Laufer's 9 facilities, or only 1 of its facilities, should be among the top 1,000 facilities, as opposed to 9 facilities.

Figure 3. Distribution of average Ultra High Rehab treatment length by SNF.
The following figure shows, for every SNF that treated at least 100 patients, the average number of Ultra High Rehab treatment days across all patients in that facility. Laufer facilities are highlighted in red. This graph comprises more than 15,000 SNFs.

I Laufer Facility I Non-Laufer Facility

47.   At bottom, Laufer facilities as a system treat patients with nearly double the days of Ultra High Rehab than other systems. The average Medicare patient at Laufer facilities receives 32.88 days of Ultra High Rehab, whereas the average Medicare patient at other facilities receives 14.87 days of Ultra High Rehab. As shown in Panel A of Figure 4, this difference is consistent across multiple years and is statistically significant as the probability that such a significant difference exists randomly is less than 1 in 100 million.

Figure 4. Ultra High Rehab Treatment at Laufer Facilities Versus Other Facilities.
This figure shows the average days of Ultra High Rehab at Laufer facilities versus other facilities from year to year for both Laufer (red) and other facilities (blue), showing that patients get more Ultra High Rehab at Laufer facilities. This is based on more than 18,000 patient admissions at Laufer facilities and more than 13 million patient admissions at other SNFs.

■Laufer Facilities■Non-Laufer Facilities
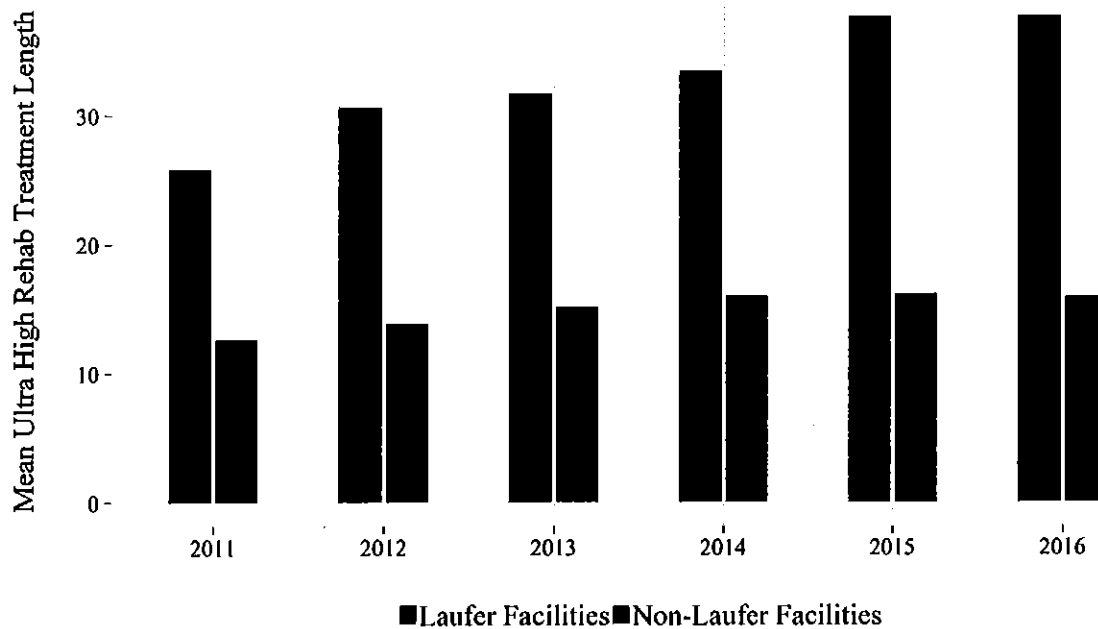
C.   Examples of Specific False Claims Submitted by Laufer Facilities

48.   Across all of the 57 diagnosis groups, Relator has identified numerous specific false claims submitted by Laufer facilities to Medicare. Each of these examples are claims in which Laufer facilities billed for medically unreasonable and unnecessary rehab. As noted above, to qualify for Ultra High Rehab, a patient must receive at least 12 hours of therapy a week, and the patient must also receive one type of therapy (physical, occupational, or speech pathology) for at least 5 days, and a second type of therapy for at least 3 days.[24] Relator has identified several claims in which Laufer facilities provided patients with significant quantities of rehab, including Ultra High Rehab, up until the patient died.

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[24] *See* Centers for Medicare & Medicaid Services, MS Long-Term Resident Care Assessment Instrument 3.0 User's Manual, Version 1.14 (October 2016), *available at* https://goo.gl/AqwFcW.

49.   For example, patient 181773973 is a male 80-84 years old who was admitted to Forest Manor on February 25, 2013, following a 7-day hospitalization for Pneumonia. He also had secondary complications of encephalopathy, heart failure, dementia, and chronic kidney disease during his inpatient stay. He was treated at Forest Manor for a total of 43 days until he passed away. Forest Manor billed for 43 days of Ultra High Rehab for this patient, up to and including the day he passed away.[25]

50.   Patient 198483505 was a male older than 84 years old who was admitted to Forest Manor on July 16, 2015, after a 4-day hospitalization for an intracerebral hemorrhage. He also had secondary complications of urinary tract infection, hypertension, and osteoarthrosis. He received Ultra High Rehab at Forest Manor for 79 days, up until the day he died.[26]

51.   Patient 187477711 was a male 80-84 years old who was admitted to Treetops on February 21, 2014, after a 10-day hospitalization for Septicemia. He also had secondary complications of urinary tract infection and acute kidney failure. He received Ultra High Rehab at Treetops for 60 days, and then received 8 days of Medium Rehab up until the day he died.[27]

52.   Patient 198733371 was a female 80-84 years old who was admitted to Oasis on May 21, 2016, after a 24-day hospitalization for subdural hemorrhage. She received the surgical procedure of extirpation of matter from intracranial subdural space, and also had secondary complications of encephalopathy, pneumonitis, and urinary tract infection. She received 60 days of Ultra High Rehab, and died on the 61st day of her stay.[28]

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[25] Forest Manor submitted claims to Medicare for this patient's admission with the following claim numbers: 3454005, 3454006, and 3454007.

[26] Forest Manor submitted claims to Medicare for this patient's admission with the following claim numbers: 3009184, 3428418, 3859378, and 4278681.

[27] Treetops submitted claims to Medicare for this patient's admission with the following claim numbers: 3440256, 3440257, and 3440258.

[28] Oasis submitted claims to Medicare for this patient's admission with the following claim numbers: 1993946, 2408423, and 2818039.

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53.   Patient 183402002 was a female older than 84 years old who was admitted to Treetops on October 12, 2015, after a 6-day hospitalization for Septicemia Due to E. coli. The patient also had secondary complications of Dementia, Diabetes, Metabolic Encephalopathy, Acute Kidney Failure, and a Urinary Tract Infection. Treetops billed Medicare for 31 days of Ultra High Rehab, up to and including the day she died.[29]

54.   Patient 102374439 was a male 75-79 years old who was admitted to Suffolk on April 9, 2014, after a 20-day hospitalization for acute and chronic respiratory failure. He was treated at the inpatient hospital with more than 96 hours of ventilator support, and also had secondary complications of heart failure, pneumonia, and acute kidney failure. Suffolk billed Medicare for 49 days of Ultra High Rehab for this patient, up to and including the day he died.[30]

55.   To further demonstrate Laufer facilities' billing of unreasonable and unnecessary rehab, the following Table 3 includes 50 additional examples of claims for SNF admissions submitted by Laufer facilities with excessive Ultra High Rehab, along with the excess days of Ultra High Rehab provided by Laufer facilities and the amount of additional revenue Laufer facilities received as a result. Table 3 is illustrative and is by no means an exhaustive list of excessive Ultra High Rehab provided by Laufer facilities.

Table 3. Ultra High Rehab False Claims Made by Laufer Facilities.

Beneficiary ID	Claim IDs	SNF	Admission Date	Age/ Gender/ Race	Inpatient Principal Diagnosis	Days of Ultra High Rehab	Days of Excess Ultra High Rehab	False Claim Amount
180457112	3405253/ 3405254/ 3405255/ 3195979	Oasis	10/28/2013	75-79/ Female/ White	Urinary Tract Infection; Site Not Specified	60	44.82	$18,323

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[29] Treetops submitted claims to Medicare for this patient's admission with the following claim numbers: 4239875 and 4650016.

[30] Suffolk submitted claims to Medicare for this patient's admission with the following claim numbers: 127930 and 127931.

24

Beneficiary ID	Claim IDs	SNF	Admission Date	Age/ Gender/ Race	Inpatient Principal Diagnosis	Days of Ultra High Rehab	Days of Excess Ultra High Rehab	False Claim Amount
181332180	3438001/ 3438002/ 3226373	Oasis	11/15/2013	>84/ Female/ White	Fracture of Neck of Femur (hip)	60	38.79	$13,905
181994212	1527246/ 1953085/ 2368987/ 2778731	Oasis	04/21/2016	<65/ Female/ White	Pneumonia; Organism Unspecified	60	47.67	$15,168
184447771	3547861/ 3547862/ 3547863	Oasis	10/11/2013	80-84/ Female/ White	Other Diseases of the Circulatory System	60	45.14	$12,911
185430479	3365229/ 3365230/ 297147	Oasis	11/09/2014	80-84/ Female/ White	Delirium Dementia and Amnestic and Other Cognitive Disorders	60	44.82	$11,982
184684238	2720878/ 3174703/ 3628044/ 4096026	Sutton Park	06/07/2011	65-69/ Male/ White	Respiratory Failure	100	87.07	$18,436
182706791	3270555/ 3270556/ 3270557/ 3270558	Treetops	03/01/2014	80-84/ Female/ White	Cellulitis and Abscess of Leg	100	85.33	$17,985
183830744	3523281/ 3523282/ 3523283/ 3523284	Suffolk	05/24/2013	80-84/ Male/ Black	Diabetes with Other Manifestations	100	85.96	$18,216
182026346	1201020/ 1657324/ 2099200/ 2535478	East Rockaway	03/17/2015	>84/ Female/ White	Other Diseases of the Digestive System	90	77.41	$17,760
182949072	2715009/ 3168941/ 3622179/ 4090088	Forest Manor	06/18/2011	80-84/ Female/ White	Obstructive Chronic Bronchitis	60	47.96	$15,586
183387343	3506234/ 3506235/ 3506236/ 3506237	Sutton Park	02/08/2013	70-74/ Female/ White	Other Mental Illness	100	84.72	$14,001
180837846	2242880/ 2708167/ 3162311/ 3615645	Forest Manor	05/12/2011	80-84/ Male/ White	Congestive Heart Failure	90	78.38	$18,254
184245977	4543933/ 4984843/ 5443098/ 3766371	East Rockaway	10/06/2011	75-79/ Female/ White	Fracture of Humerus	90	68.20	$8,348

Beneficiary ID	Claim IDs	SNF	Admission Date	Age/ Gender/ Race	Inpatient Principal Diagnosis	Days of Ultra High Rehab	Days of Excess Ultra High Rehab	False Claim Amount
185612683	3371907/ 3371908/ 3371909	Forest Manor	06/21/2014	>84/ Female/ White	Other Nervous System Symptoms and Disorders	60	43.95	$17,444
460465925	3882425/ 3882426/ 342692	Treetops	11/28/2014	<65/ Male/ White	Other Diseases of the Digestive System	60	47.41	$13,788
107566665	370761/ 370762/ 370763/ 370764/ 370765	Sutton Park	01/30/2014	75-79/ Female/ Hispanic	Other Diseases of the Circulatory System	100	85.14	$18,337
469563319	4026192/ 4026193/ 4026194/ 4026195	Long Island	05/22/2014	70-74/ Female/ White	Other Neoplasms	60	50.08	$7,370
185111996	3394843/ 3824212/ 4244784/ 4654797	Sutton Park	08/04/2015	<65/ Male/ White	Acute Renal Failure	100	85.68	$18,685
473831820	3686407/ 4094937/ 4498631/ 4916063	Suffolk	09/27/2016	65-69/ Female/ Black	Obstructive Chronic Bronchitis	90	77.96	$18,602
116009270	3815219/ 4284111/ 4729270/ 5172585/ 674043	Suffolk	09/27/2011	>84/ Female/ White	Transient Cerebral Ischemia	100	82.01	$16,810
186083803	3388485/ 3388486/ 3388487/ 299189	Forest Manor	10/07/2014	80-84/ Male/ White	Osteoarthritis; Localized	100	87.57	$28,786
184334428	1306933/ 1785522/ 2254221/ 2719541	East Rockaway	03/21/2011	>84/ Female/ White	Occlusion of Cerebral Arteries	90	67.88	$7,100
495594822	5262531/ 5262532/ 5262533	Treetops	03/12/2012	70-74/ Female/ White	Other Diseases of the Digestive System	60	47.41	$14,130
184450342	3775440/ 3775441/ 3775442/ 3775443	East Rockaway	05/14/2012	80-84/ Male/ White	Acute Renal Failure	90	75.68	$15,664

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Beneficiary ID	Claim IDs	SNF	Admission Date	Age/ Gender/ Race	Inpatient Principal Diagnosis	Days of Ultra High Rehab	Days of Excess Ultra High Rehab	False Claim Amount
493904447	4938169/ 4938170/ 4938171/ 437817	Suffolk	10/09/2014	70-74/ Female/ White	Osteoarthritis; Localized	90	77.57	$23,461
499538721	5228066/ 5228067/ 5228068	Treetops	05/13/2014	70-74/ Female/ White	Other Neoplasms	60	50.08	$5,998
471889921	4095050/ 4095051/ 4095052/ 4095053	Long Island	03/27/2014	65-69/ Male/ White	Other Diseases of the Respiratory System	60	47.41	$15,399
182156605	2535821/ 2965854/ 3387337/ 3816339	Montclair	06/08/2015	80-84/ Male/ White	Obstructive Chronic Bronchitis	100	87.96	$21,589
497836832	1377619/ 1828314/ 2267499/ 2703123	Oasis	03/19/2015	75-79/ Female/ White	Osteoarthritis; Localized	90	77.57	$24,828
484147875	3077392/ 3495439/ 3928902/ 4348666	Excel	07/09/2015	70-74/ Male/ White	Other Diseases of the Digestive System	60	47.41	$15,093
184985358	3350756/ 3350757/ 3350758/ 3350759	East Rockaway	04/03/2014	80-84/ Female/ White	Acute Myocardial Infarction	90	77.35	$17,296
198190897	5032307/ 5491973/ 4326960/ 4326961	East Rockaway	11/16/2011	80-84/ Female/ White	Acute Renal Failure	90	75.68	$15,612
186752849	5078914/ 254235/ 673412/ 1104883/ 1539909	Oasis	12/24/2015	80-84/ Male/ Black	Obstructive Chronic Bronchitis	90	77.96	$18,553
185951616	3835655/ 3835656/ 3835657/ 3835658	Forest Manor	03/17/2012	80-84/ Male/ White	Other Injury and Poisoning	90	73.47	$12,963
198855188	4090582/ 4090583/ 4090584/ 4090585	Treetops	08/07/2013	80-84/ Female/ White	Other Nervous System Symptoms and Disorders	60	43.95	$17,620
198620475	702581/ 1134564/ 1569095/ 1993543	Treetops	02/09/2016	80-84/ Male/ White	Unspecified Septicemia	90	77.53	$14,902

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Beneficiary ID	Claim IDs	SNF	Admission Date	Age/ Gender/ Race	Inpatient Principal Diagnosis	Days of Ultra High Rehab	Days of Excess Ultra High Rehab	False Claim Amount
481632815	4707004/ 4707005/ 4548579/ 4548580	East Rockaway	11/17/2012	70-74/ Male/ Black	Other Injury and Poisoning	90	73.47	$12,989
184189874	4241938/ 4652034/ 5071203/ 246899	Suffolk	10/23/2015	>84/ Male/ White	Urinary Tract Infection; Site Not Specified	90	74.82	$12,547
185996910	3179156/ 3632578/ 4100637/ 4550088	Sutton Park	07/13/2011	65-69/ Male/ White	Other Diseases of the Nervous System and Sense Organs	100	83.06	$16,434
189279544	3835881/ 4256275/ 4665826/ 5085790	Montclair	09/28/2015	75-79/ Male/ White	Acute Myocardial Infarction	60	47.35	$14,488
495189383	5117534/ 5117535/ 5117536	Suffolk	10/18/2013	70-74/ Female/ White	Fracture of Neck of Femur (hip)	60	38.79	$11,939
160910788	2723143/ 3134834/ 3549238/ 3957351	Sutton Park	07/05/2016	80-84/ Male/ Black	Acute Renal Failure	100	85.68	$18,685
489811670	3948007/ 4367476/ 4772240	Forest Manor	09/21/2015	70-74/ Female/ White	Other Injury and Poisoning	60	43.47	$10,261
493169837	5013982/ 5013983/ 5013984/ 5013985/ 5013986	East Rockaway	07/29/2013	75-79/ Male/ White	Unspecified Septicemia	90	77.53	$16,520
185462802	3366382/ 3366383/ 3366384/ 3366385	Treetops	02/10/2014	80-84/ Male/ White	Acute Myocardial Infarction	90	77.35	$18,225
480741273	4513543/ 4513544/ 4513545/ 4513546/ 4513547	Suffolk	07/26/2013	70-74/ Female/ White	Unspecified Septicemia	90	77.53	$15,163
187186836	3430291/ 3430292/ 3430293/ 3430294/ 3430295	Sutton Park	06/27/2014	65-69/ Female/ Black	Cellulitis and Abscess of Leg	90	75.33	$13,698
184272003	2374261/ 2783937/ 3194850/ 3608071	Excel	06/03/2016	80-84/ Female/ White	Other Injury and Poisoning	90	73.47	$12,955

Beneficiary ID	Claim IDs	SNF	Admission Date	Age/ Gender/ Race	Inpatient Principal Diagnosis	Days of Ultra High Rehab	Days of Excess Ultra High Rehab	False Claim Amount
483403636	4769480/ 4614770/ 4614771/ 4614772	East Rockaway	12/28/2012	70-74/ Female/ White	Fracture of Neck of Femur (hip)	60	38.79	$13,936
185944373	1212687/ 1668723/ 2110046/ 2546333/ 2976084	Sutton Park	03/24/2015	70-74/ Female/ Black	Congestive Heart Failure; Nonhypertensive	100	87.49	$22,171

2.   **Sharp Drop in Therapy After 60, 90, and 100 days Further Proves Laufer Facilities' Fraudulently Excessive Billing of Ultra High Rehab**

A.   **Laufer Facilities Make Treatment Decisions in Order to Maximize Revenue in Light of Medicare's Assessment and Reporting Requirements**

56.   Laufer facilities' fraudulent conduct can also be proven using causal methods, which are often used in economics, finance and other applications to assess the extent to which an effect can be identified to be caused, and not merely associated with, other explanatory variables.[31] A common causal econometric methodology is the use of discontinuity analysis which can be applied when there is a sudden change in the effect that one wishes to examine.[32] In SNFs, the patient's need for therapy should be similar across consecutive days since, on average, their underlying medical necessity should not change drastically from one day to the next. However, an SNF could be providing therapy to patients with the goal of fraudulently maximizing revenue and therefore suddenly change the level of therapy provided in response to assessments or other documentation requirements. This would be in contrast to a facility that provides therapy only

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[31] "The notion of ceteris paribus—that is, holding all other (relevant) factors fixed—is at the crux of establishing a causal relationship." Jeffrey Wooldrige, Econometric Analysis of Cross Section and Panel Data 3 (2d ed. 2010).

[32] *See* J.D. Angrist and J.S. Pischke, Mostly Harmless Econometrics: An Empiricist's Companion 251–53 (2009).

based on medical necessity and is thus unconcerned with the documentation requirements. A discontinuity analysis is able to determine whether there is a statistically significant sudden change in the level of therapy due to the additional explanatory variable, which in this case is the requirement to record and submit assessments of the patient's condition and need for therapy.

57.   According to CMS, SNFs providing rehab to patients are required to perform and record an initial assessment and additional assessments at 14, 30, 60, and 90 days to continue providing rehab treatment. Notably, the assessments are performed with the involvement of staff employed by the SNF and are not externally and independently verified. Further, the Medicare benefit runs out after 100 days of SNF services.

58.   Relator found spikes at each of these intervals at Laufer facilities, *i.e.*, abnormally high levels of patients who received Ultra High Rehab for exactly 14, 30, 60 or 90 days (see Figure 5 on page 29 below), indicating that facilities are seeking to maximize the level of Ultra High Rehab provided until an assessment needs to be submitted to Medicare. The spikes are particularly large for patients receiving exactly 60, 90, or 100 days of Ultra High Rehab.

59.   Nationwide, 1.49% of SNF patients receive exactly 60, 90, or 100 days of Ultra High Rehab, while 8.65% of patients at Laufer facilities receive exactly 60, 90, or 100 days of Ultra High Rehab. Laufer facilities have more than 5.8 times as many patients who receive exactly 60, 90, or 100 days of Ultra High Rehab than other facilities where such a spike is unusual and uncommon.

Figure 5. Histogram of Ultra High Rehab Treatment Length for Laufer and Non-Laufer Facility Patients.
The following figure plots, for each Ultra High Rehab treatment length between 1 and 100 days, the percentage of patient admissions where the patient received exactly that many days of Ultra High Rehab treatment. The red histogram displays patients treated at a Laufer SNF, and the blue histogram displays patients treated elsewhere. There were more than 13 million patient admissions in the data set, including more than 18,000 patient admissions at Laufer facilities.
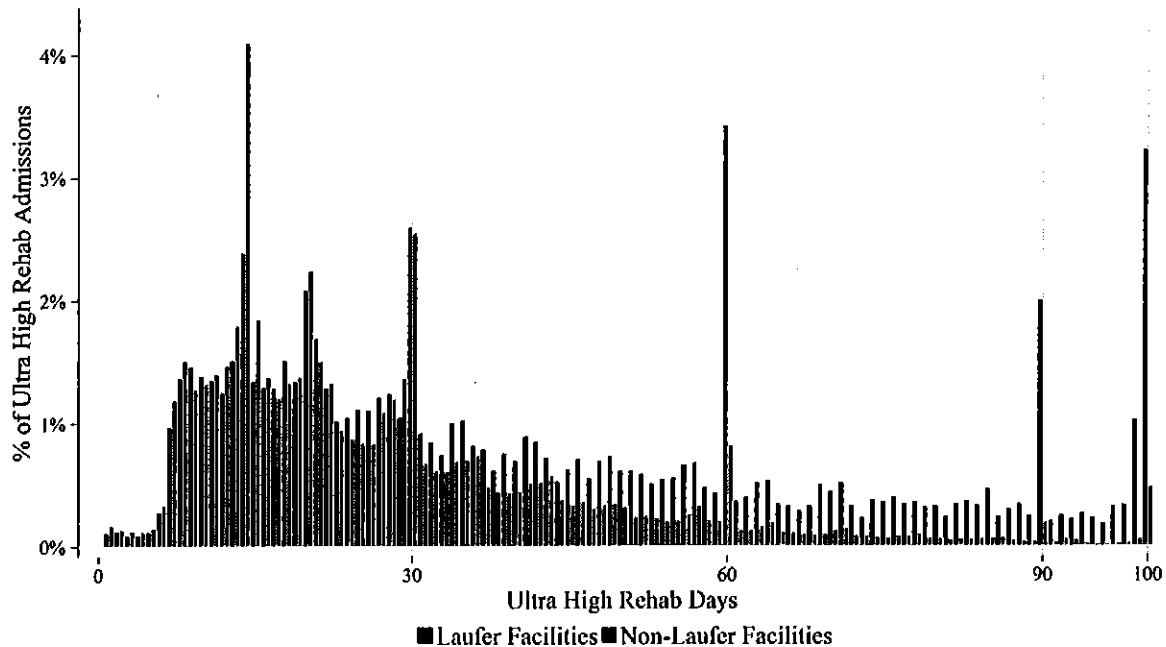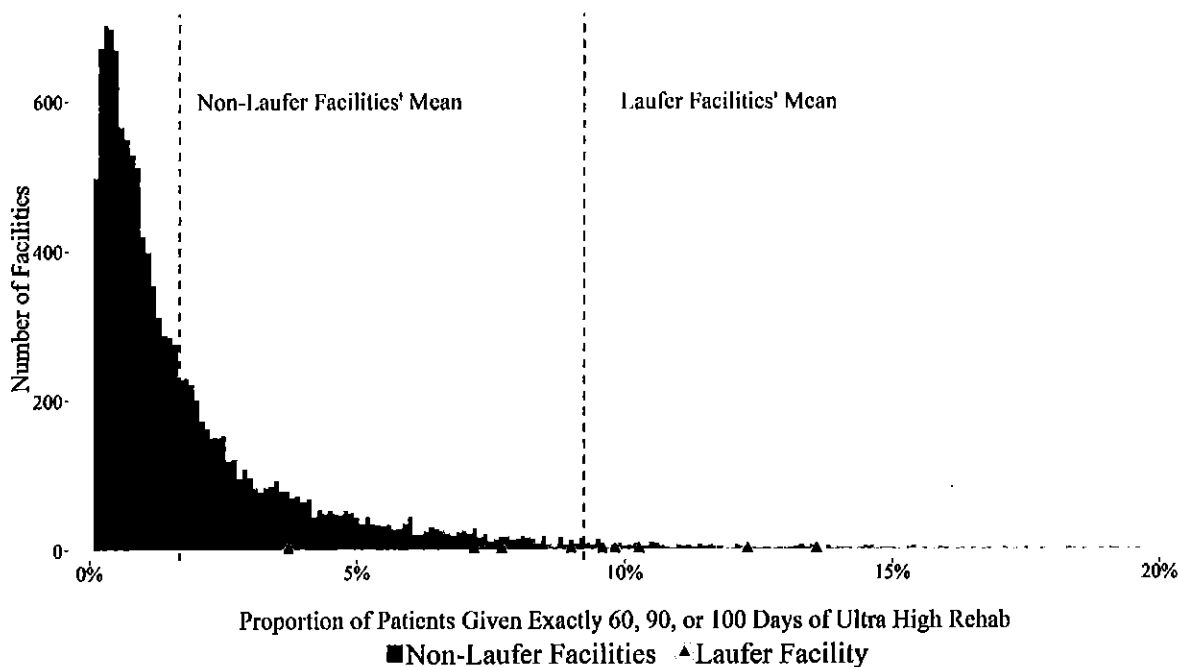

B.   The Spike in Patients Receiving Exactly 60, 90, or 100 Days of Ultra High Rehab is Consistent Across Laufer Facilities

60.   This pattern is consistent across all Laufer facilities, and several Laufer facilities are extreme outliers for the proportion of patients receiving exactly 60, 90, or 100 days of Ultra High Rehab. Figure 6 shows how it is incredibly rare for an SNF to have more than 5% of its patients receive exactly 60, 90, or 100 days of Ultra High Rehab, occurring at only 8.05% of facilities nationwide. However, at 8 of 9 Laufer facilities (88.89%), more than 5% of patients receive exactly 60, 90, or 100 days of Ultra High Rehab. Moreover, 3 Laufer facilities bill more than 10% of their patients as receiving exactly 60, 90, or 100 days of Ultra High Rehab.

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Figure 6. Histogram: Proportion of Patients Receiving exactly 60, 90, or 100 days of Ultra High Rehab.
The following figure shows, for each proportion between 0% and 20%, the number of SNFs treating that proportion of patients with exactly 60, 90, or 100 days of Ultra High Rehab. Only facilities that treated at least 100 patients from 2011 through 2016 are included here. The figure comprises more than 15,000 SNFs in the data set, including 9 Laufer facilities. Proportions for individual Laufer facilities are marked, as are the overall and Laufer facility averages. There are 17 non-Laufer SNFs with a proportion higher than 20% that are excluded from the following histogram.

Proportion of Patients Given Exactly 60, 90, or 100 Days of Ultra High Rehab
■Non-Laufer Facilities ▲Laufer Facility

61. Further, Figure 7 shows just how extreme of an outlier some individual Laufer facilities are in terms of the proportion of claims receiving exactly 60, 90, or 100 days of Ultra High Rehab. Laufer facilities have 8 facilities in the top 5 percent of all facilities when ranked by proportion of patients with exactly 60, 90, or 100 days, including 5 in the top 2 percent. The probability of having 5 (out of 9) in the top 2 percent randomly is less than 1 in 2 million. The consistent spike in patients receiving exactly 60, 90, or 100 days of Ultra High Rehab at Laufer facilities indicates that Laufer facilities are giving patients as much Ultra High Rehab as possible prior to the required assessments.

Figure 7. Distribution of the Proportion of Patients Receiving Exactly 60, 90, or 100 Days of Ultra High Rehab. The following figure shows, for each SNF, the proportion of patients who receive exactly 60, 90, or 100 days of Ultra High Rehab. Laufer facilities are in red and all other SNFs are in blue. The figure comprises more than 15,000 facilities with at least 100 patient admissions from 2011 through 2016, including 9 Laufer facilities.

ı Laufer Facility ı Non-Laufer Facility
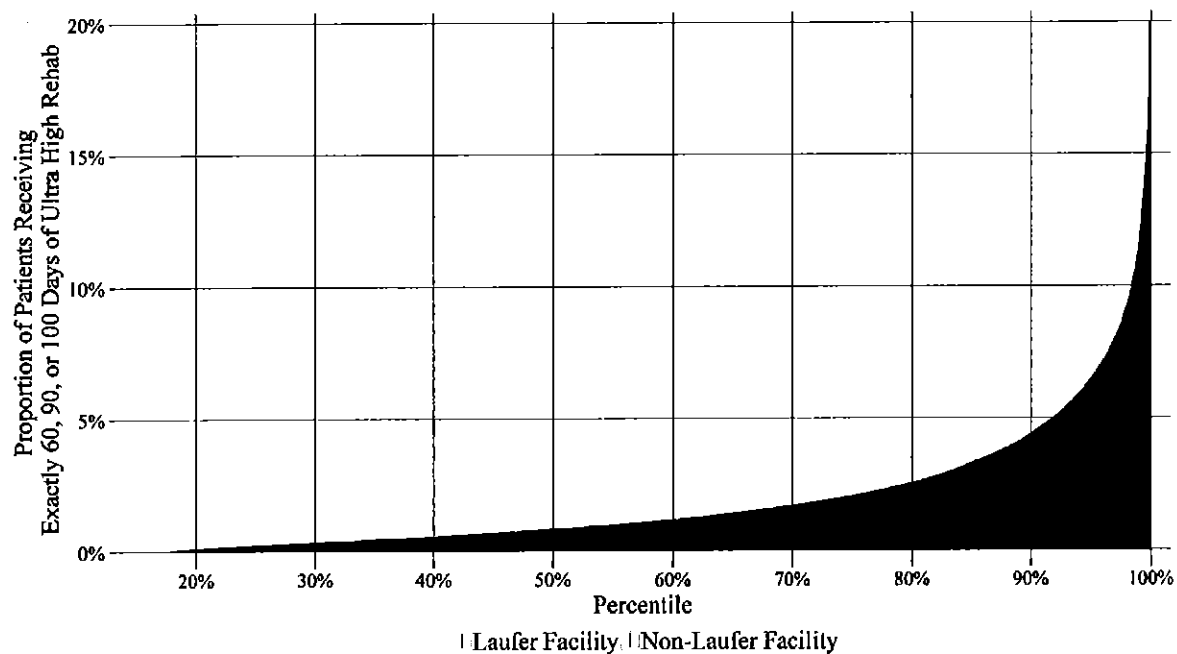
62.   The fact that so many patients no longer receive Ultra High Rehab after the

assessments for days 60, 90, and 100 indicates that few of these patients needed that Ultra High

Rehab for that length of time in the first place. In other words, if the patients did not need Ultra

High Rehab on day 61, then why did so many patients receive Ultra High Rehab on day 60 and

before? Similarly, if the patients did not need Ultra High Rehab on day 91 or 101, then why did so

many patients receive Ultra High Rehab on day 90 or day 100 and before? Providing therapy until

the assessment allows Laufer facilities to maximize revenue in light of the assessment periods, and

the analysis demonstrates that Laufer facilities are making rehab decisions in order to maximize

profits rather than providing patients with rehab that is reasonable and necessary.

3.   **Alternative Hypotheses for Excessive Ultra High Rehab Do Not Stand and Confirm that Laufer Facilities Fraudulently Billed Medicare**

63.   To determine responsibility for the excessive Ultra High Rehab at Laufer facilities, Relator analyzed whether the statistically aberrant amounts of Ultra High Rehab could be attributed to a variety of external factors. First, Relator ran a fixed effect linear regression model to control for a variety of possible explanations for Ultra High Rehab, including patient health, patient characteristics and county demographic data. Second, Relator analyzed Laufer's acquisitions of two SNFs to determine whether there was a significant increase in the amount of Rehab provided after Laufer gained ownership and operational control. Third, Relator considered whether a patient's diagnosis at the SNF, as opposed to their prior diagnosis inpatient hospital diagnosis, could explain the Ultra High Rehab. Fourth, Relator considered whether the patient's overseeing physician is responsible for the excessive Ultra High Rehab reimbursements at Laufer facilities. Fifth, Relator considered whether the excessive Ultra High Rehab could be explained by the referring hospital or the attending physician during the patient's inpatient hospital stay. Sixth, Relator analyzed a subset of patients who were admitted to both a Laufer facility and another SNF. As discussed further below, these analyses prove that the excessive Ultra High Rehab can be directly attributed to Laufer facilities' fraudulent activity as opposed to external factors, indicating that the fraud was known by the system and was intentional.

A.   **Patient Characteristics and Demographics do not Explain the Excessive Ultra High Rehab at Laufer Facilities**

64.   A fixed effect linear regression model allowed Relator to control for the possibility that there are certain patient characteristics which might suggest a patient needs extra rehab. Relator's regression isolated the amount of Ultra High Rehab beyond such characteristics and caused only by Laufer facilities. Using this methodology, Relator controlled for patient characteristics such as age, gender, and race. Relator also used county-level demographic data,

such as unemployment rate, percent of population without a high school diploma, log median income, and the rural-urban continuum codes from the Department of Agriculture as control variables.[33] These county demographic variables provided Relator with a proxy for the income levels, education levels, and access to care available to the patients. Lastly, Relator controlled for the principal diagnosis by grouping together principal diagnosis codes in a manner consistent with their statistical analysis, as well as any inpatient secondary diagnoses, whether the patient had surgery, and the patient's prior length of stay at the inpatient hospital. These enabled Relator to estimate the severity of the patient's condition and need for receiving therapy. Equation 1 shows the fixed effect linear regression model used by Relator.

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[33] The Rural-Urban Continuum Codes measure whether each county is in a metro or non-metro area, and reflect the overall size of the metropolitan area.

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Equation 1. Relator's Fixed Effect Linear Regression Model.
The following equation presents the fixed effect linear regression model used by Relator. The variable of interest is β_1, which is the coefficient for Laufer facilities. Panel A provides the equation, and Panel B explains the variables included in the model. The i refers to a specific admission and j refers to the potential options for the categorical variables.

Panel A – Regression Model

$$Ult\_Rehab\_Los_i$$

$$= \beta_0 + \beta_1. Laufer_i + \sum_{j=2}^{57} \beta_{2j}. Inp\_Pri\_Diag_{ij} \times Last\_Inp\_Los_i + \sum_{j=2}^{6} \beta_{3j}. Age_{ij}$$

$$+ \beta_4. Male_i + \beta_5. Race_i + \sum_{j=2}^{57} \beta_{6j}. Inp\_Pri\_Diag_{ij} \times Last\_Inp\_Surg_i + \sum_{j=2}^{9} \beta_{7j}. RUCC_{ij}$$

$$+ \beta_8. Pov\_Rate_i + \beta_9. Log\_Med\_Inc_i + \beta_{10}. Unemp\_Rate_i + \beta_{11}. No\_HS\_Rate_i$$

$$+ \sum_{j=2}^{589} \beta_{12j}. Inp\_Sec\_Diag_{ij} + \sum_{j=2}^{4} \beta_{13j}. Season_{ij} + \varepsilon_i$$

Panel B – Explanation of Variables

Variable	Description
$Ult\_Rehab\_Los_i$	Days of Ultra High Rehab treatments for patient i
$Laufer_i$	Whether patient i was treated at Laufer facility
$Inp\_Pri\_Diag_{ij}$	Last inpatient principal diagnosis group dummy variables for patient i
$Last\_Inp\_Los_i$	Last inpatient length of stay at hospital for patient i
$Last\_Inp\_Surg_i$	Whether the last inpatient claim was assigned to a surgical DRG
$Inp\_Sec\_Diag_{ij}$	Last inpatient secondary diagnosis ccs_1 category dummy variables for patient i
$Season_{ij}$	Season control variable for the SNF admission (Winter, Spring, Summer, Fall)
Age_{ij}	Patient's age on the admission.
$RUCC_{ij}$	Patient's rural urban continuum code based on the county.
$Male_i$	Whether patient i was a male.
Pov_Rate_i	County poverty rate in 2014.
$Unemp\_Rate_i$	County unemployment rate in 2014
$Log\_Med\_Inc_i$	County log median income in 2014
$No\_HS\_Rate_i$	County percentage of individuals without a high school degree in 2010
ε_i	Error term

65.   By controlling for these characteristics, the regression model allowed Relator to isolate the impact that being treated at a Laufer facility would have on a patient's expected days of Ultra High Rehab. For example, given two patients with the same age and gender, from the same county, with the same principal and secondary diagnoses from their prior inpatient stay, same surgery status, and same length of stay, the Laufer patient would on average receive 17.11 more days of Ultra High Rehab than the patient at a non-Laufer facility.

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66.   Table 4 shows the results of the fixed effect linear regression, and after controlling for other factors, it shows that the Laufer coefficient for days of Ultra High Rehab is 17.11. This means that after considering the characteristics included in Equation 1, patients at a Laufer facility can be expected to receive an extra 17.11 days of Ultra High Rehab beyond what would be given at other facilities. Given the baseline average days of Ultra High Rehab at other facilities is 15.1 days, Laufer facilities' average days of Ultra High Rehab is 213.31% that of other SNFs, even after controlling for basic patient and demographic characteristics. This result is highly statistically significant with the probability that this observed difference is due to random chance being less than 1 in 100 million. The regressions indicate that Ultra High Rehab rates at Laufer facilities are extremely outside of the norms of what is acceptable and reasonable in industry for patients with similar characteristics.

Table 4. Results of Fixed Effect Linear Regression Model
Relator used a linear regression to analyze approximately 13 million admissions at Laufer facilities and other SNFs. The results are presented in the following table. The coefficient is listed first and the p-value is in parenthesis, which represents the statistical significance of the coefficient. A lower p-value means the result is more statistically significant. Coefficients were not included for categorical variables and instead are labeled with a "Yes" to indicate the variable was controlled for in the regression. The Laufer coefficient is added to the rate at other facilities to get the expected Laufer facility days of Ultra High Rehab after including controls.

	Regression Coefficients *(See description in table header)*
Poverty Rate	-0.0305 (<0.0001)
Unemployment Rate	0.2054 (<0.0001)
Log Median Income	0.0075 (0.8754)
No High School Diploma Rate	0.2048 (<0.0001)
Season Control Variables	Yes
Age Control Variables	Yes
Sex Control Variables	Yes
Race Control Variables	Yes
Inpatient Length of Stay × Inpatient Principal Diagnosis Category	Yes
Inpatient Surgical DRG × Inpatient Principal Diagnosis Category	Yes
Inpatient Secondary Diagnosis Categories	Yes
RUCC Control	Yes

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Laufer Facilities Coefficient for Unexplained Ultra High Rehab	17.11 (<0.0001)
Other Facilities Average	15.1
Laufer Facilities Calculated Effect	**32.21**
Laufer Facilities Relative Effect	**213.31%**

67.   Another regression method to estimate Laufer facilities' effect on Ultra High Rehab is to estimate the regression without the controls for skilled nursing chain and create an estimate of the expected days of Ultra High Rehab for each individual claim. For each skilled nursing chain, the average difference between the predicted days of Ultra High Rehab from the regression and the actual days of Ultra High Rehab billed on the claim is calculated, which is referred to as a residual. The difference between these two values represents the unexplained Ultra High Rehab that is caused by each skilled nursing chain. Figure 8 shows the average days of unexplained Ultra High Rehab for each skilled nursing chain, with Laufer facilities plotted in red. Laufer facilities' average unexplained Ultra High Rehab by this measure is 16.98 days, making it the highest among all skilled nursing chains with at least 5,000 claims.

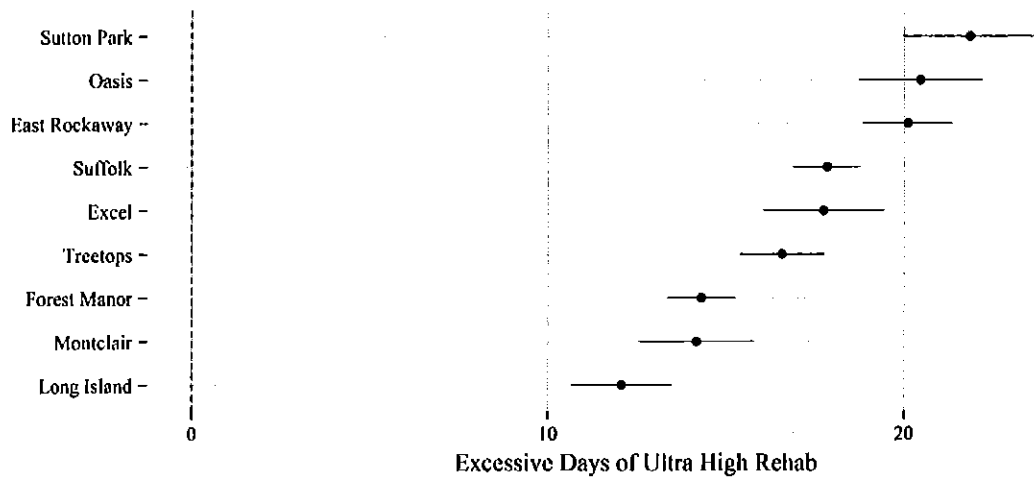**Figure 8. Average Unexplained Ultra High Rehab for SNF Chains.**
The following figure plots the results of the regression from Equation 1, but run without the Laufer fixed effect variable. All other variables included were the same. The regression was run based on 319 SNF chains with at least 5,000 patient admissions from 2011 through 2016Q3. The small vertical lines off of the point estimates represent the confidence interval for the systems' unexplained Ultra High Rehab. Because chains with at least 5,000 admissions were included, the large number of claims result in small confidence intervals.

♦ Other SNF Chains ♦ Laufer Facilities

68.   Relator also performed the analysis at the facility level to demonstrate that the excessive Ultra High Rehab is taking place across the majority of Laufer's SNFs, as opposed to a few rogue facilities. Relator re-estimated the regression described in Equation 1, except instead of one fixed effect control variable for Laufer facilities, individual fixed effect variables were included for each of Laufer's facilities. Figure 9 plots the results of that regression for each individual Laufer facility. As shown in the graph, the amount of extra Ultra High Rehab at each individual facility ranges from 12.05 extra days of Ultra High Rehab at Long Island to 21.86 extra days at Sutton Park.

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Figure 9. Excessive Days of Ultra High Rehab at Individual Laufer Facilities.
The following figure displays the estimated regression coefficients and 95 percent confidence intervals for 9 Laufer SNFs. The coefficient represents the amount of Ultra High Rehab attributed to the individual facilities after controlling for other factors. A coefficient of zero suggests the facility is not engaging in any unnecessary or excessive Ultra High Rehab.

Excessive Days of Ultra High Rehab

69.   As an additional analysis at the facility level, Relator used the regression from Equation 1 but without the Laufer fixed effect variable, and calculated the residual, or unexplained Ultra High Rehab for each facility. Figure 10 plots the average unexplained Ultra High Rehab for each facility, and, when compared to other facilities, it is apparent that Laufer facilities' distribution is skewed significantly to the right of the chart. This demonstrates that all of the Laufer facilities have significant amounts of unexplained Ultra High Rehab.

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Figure 10. All SNFs, Ranked by Their Average Residuals.
The following figure shows the average residuals from our regression analysis across more than 14,000 SNFs with at least 100 patient admissions. Higher residuals suggest higher amounts of unexplained Ultra High Rehab. Laufer facilities are highlighted in red, and other facilities are in blue.

♦ Non-Laufer Facility ♦ Laufer Facility
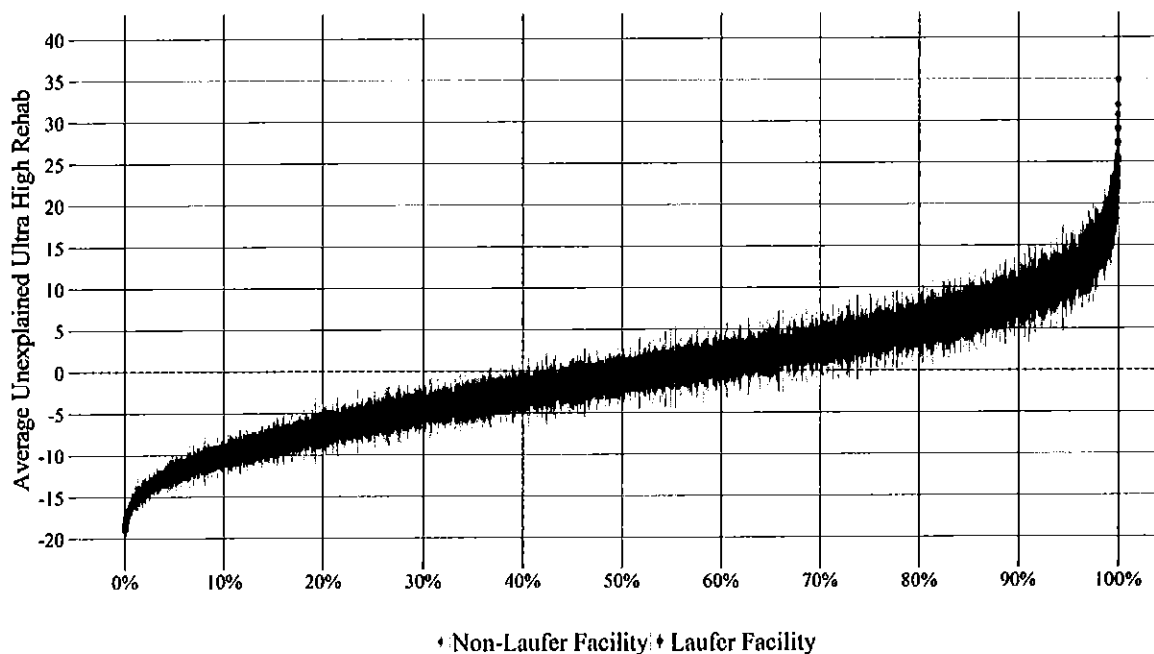
70.   Taken together, Relator's regression analyses demonstrate that the excessive Ultra High Rehab at Laufer facilities cannot be explained due to unique patient demographic or health characteristics. Additionally, this behavior is consistent across nearly all of Laufer's facilities, indicating it required coordinated effort.

B.   Laufer's Acquisition of a New Facility Demonstrates that Laufer Management Causes the Excessive Ultra High Rehab

71.   Laufer's fraudulent conduct can also be proven using a common causal econometric methodology known as a Comparative Interrupted Time Series (CITS), which can be applied when there is a sudden change in the effect that one wishes to examine to infer a causal relationship.[34] In this case, Laufer's causal influence on the amount of Ultra High Rehab provided by an SNF can

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[34] "CITS... produce[s] causally valid inferences about program impacts." Marie-Andree Somers, Pei Zhu, Robin Tepper Jacob, Howard Bloom, *The Validity and Precision of the Comparative Interrupted Time Series Design and the Difference-in-Difference Design in Educational Evaluation*, MDRC Working Paper on Research Methodology (Sept. 2013).

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be estimated by comparing the SNF's average days of Ultra High Rehab before it was acquired and managed by Laufer to its amount of Ultra High Rehab after it was acquired and managed by Laufer.

72.   Two defendants, Oasis and Excel, were acquired by Laufer in 2013, at which point Laufer became the manager of both facilities. Prior to acquisition, these two facilities were unaffiliated with Laufer. The timing of the acquisitions presented Relator with an opportunity to use the discontinuity associated with the sudden shift of operational control at Oasis and Excel to assess the impact Laufer has on the average amount of Ultra High Rehab provided to patients.

          i.   *Oasis' Increase in Ultra High Rehab After its Acquisition by Laufer Indicates that Ultra High Rehab is Caused by Laufer's Practices*

73.   Laufer and two other individuals agreed to purchase the business and operations of Oasis on February 6, 2013. Approval for the operational sale was granted by the New York State Department of Health Public Health and Planning Council on August 1, 2013.[35] Relator examined the average days of Ultra High Rehab at Oasis before and after its respective affiliation with Laufer. Relator added an additional 30-day gap after the approval to account for the possibility that it might take time to implement new practices to maximize revenue. As shown in Figure 11, prior to entering into the agreement with Laufer, Oasis' average days of Ultra High Rehab was close to zero. However, after signing the purchase agreement and completing the acquisition, Oasis' rate of Ultra High Rehab increases suddenly and is consistent with the average throughout other Laufer facilities. This sudden increase continues well after Laufer had acquired and began managing the facility, indicating it was not a temporary change in behavior or otherwise an aberration.

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[35] *See* New York State Department of Health, Public Health and Planning Council, Project # 131153-E (Aug. 1, 2013), *available at* https://goo.gl/wTYgQQ.

Figure 11. CITS for Laufer's Acquisition of Oasis.
This figure shows the average days of Ultra High Rehab over time at Oasis (red) and at other Laufer facilities (black). Each dot represents a 90-day bucket with claims allocated based on the median date of the claim. The red line shows the results of the CITS analysis for Laufer's acquisition of Oasis. All claims from the signing of the purchase agreement to 30-days after its approval were not included in the CITS, but were included on the graph for completeness and are greyed out. The jump from the first line to the next demonstrates the immediate impact of the management change on Oasis' Ultra High Rehab.
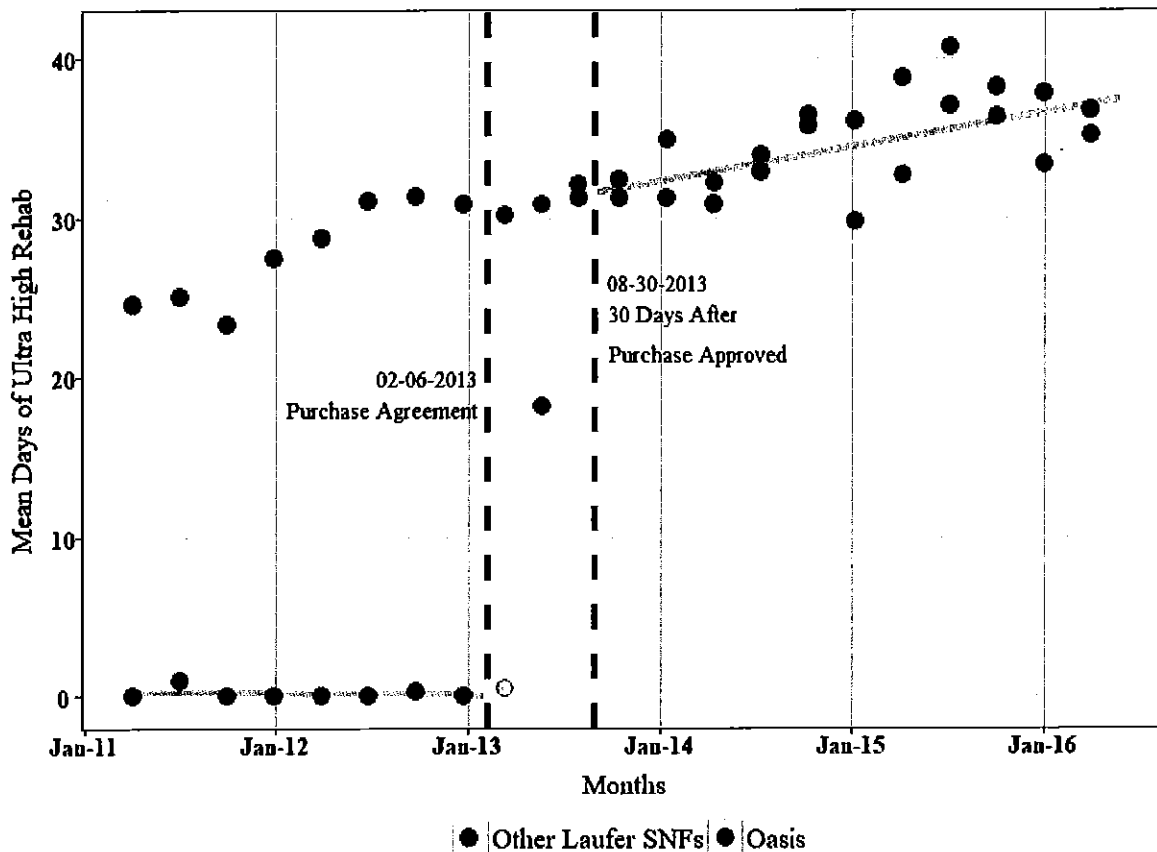
74.   The red line in Figure 11 also shows the results of the Comparative Interrupted Time Series (CITS) analysis. The CITS demonstrates that there is a significant jump in the amount of Ultra High Rehab after the acquisition by Laufer. The graph is based on the CITS formula shown in Equation 2 below, but does not include the variable controls.[36] This allowed Relator to compare differences in Ultra High Rehab for patients treated at Oasis before and after the acquisition change relative to the behavior of other facilities. The advantage of this approach is that it allowed Relator

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[36] Because the graph only includes two dimensions, the CITS for the graph does not include the patient and demographic controls identified in Equation 2.

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to identify and quantify not only the short-term effect of management change on the immediate increase in Ultra High Rehab, but also the long-term effect in the post-acquisition trend of increasing Ultra High Rehab. Relator's CITS analysis shows the average days of Ultra High Rehab increased on average 30.49 days immediately after the management agreement. As evidenced by the slope of the line, the Ultra High Rehab continues to increase overtime, consistent with other Laufer facilities. The probability this jump is random is less than 1 in 100 million, meaning Relator is confident that management agreement caused an increase in the Ultra High Rehab.

75.   Relator also ran a Comparative Interrupted Time Series (CITS) analysis while controlling for a variety of patient characteristics, the equation of which is located in Equation 2 below, including the additional control variables. This allowed Relator to control for patient characteristics such as age, race, and gender, claim characteristics such as the principal and secondary diagnoses, and regional characteristics such as income and unemployment levels in the patient's home county. Such an analysis allowed the Relator to identify the amount of the increase in Ultra High Rehab that can be attributed to the Laufer acquisition, while controlling for possible changes in the composition of patients before and after the acquisition. As such, the variable of interest represents the incremental amount of Ultra High rehab that can be attributed to the management change beyond what could be explained by the other variables. After controlling for the other variables, the effect of the management services agreement was estimated to be 31.00 days, meaning the new management agreement caused an average increase of 31.00 days of Ultra High Rehab. The probability this difference is due to random chance is less than 1 in 100 million, meaning this effect is almost certainly caused by Laufer's acquisition.

ii.   *Excel's Increase in Ultra High Rehab After its Acquisition by Laufer Indicates that Ultra High Rehab is Caused by Laufer's Practices*

76.   Similar to its acquisition of Oasis, Laufer and two other individuals agreed to purchase the business and operations of Excel on August 31, 2012. Approval for the sale was granted by the New York State Department of Health Public Health and Planning Council on August 20, 2013, at which point Laufer became the manager of the facility.[37] Relator examined the average days of Ultra High Rehab at Excel before and after its respective affiliation with Laufer. Relator added a 30-day gap after the approval to account for the possibility that it might take time to implement new practices to maximize revenue. As shown in Figure 12, prior to entering into the agreement with Laufer, Excel's average days of Ultra High Rehab was lower than other Laufer facilities. However, after the acquisition, Excel's rate of Ultra High Rehab increases suddenly to be more consistent with Laufer facilities' average days of Ultra High Rehab. This sudden increase continues well after Laufer's initial acquisition, indicating it wasn't a temporary change in behavior or simply an aberration.

[37] *See* New York State Department of Health, Public Health and Planning Council, Project # 122215-E (March 21, 2013), *available at* https://goo.gl/qEAGrt.

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Figure 12. CITS for Laufer's Acquisition of Excel.
This figure shows the average days of Ultra High Rehab over time at Excel (red) and other Laufer facilities (black). Each dot represents a 90-day bucket with claims allocated based on the median date of the claim. The red line also shows the results of the CITS analysis for Laufer's acquisition of Excel. All claims from the signing of the purchase agreement to 30-days after its approval were not included in the CITS, but are shown in the graph for completeness and greyed out. The jump from the first line to the next demonstrates the immediate impact of the management change on the Ultra High Rehab.
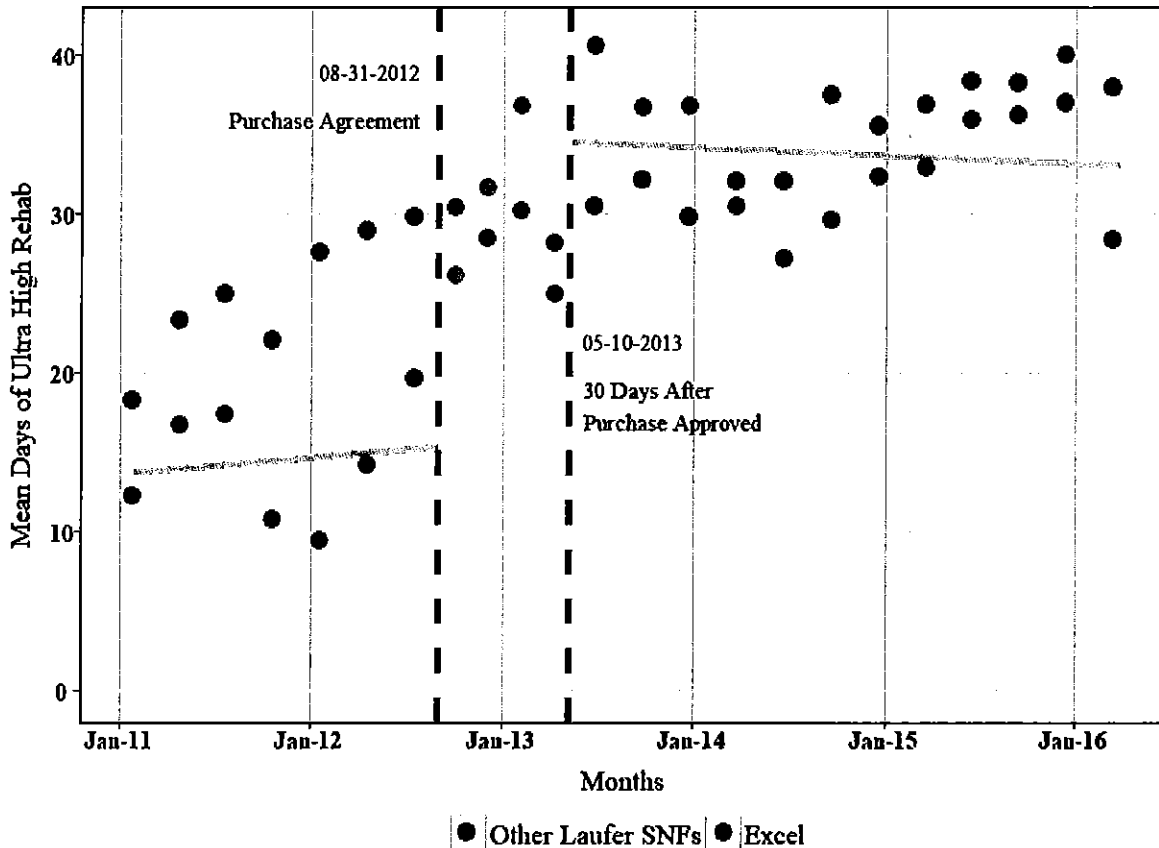
77.   To demonstrate that the change in rate of Ultra High Rehab was caused by the affiliation, the red line in Figure 11 also shows the results of the Comparative Interrupted Time Series (CITS) analysis for Laufer's acquisition of Excel. The CITS demonstrates that there is a significant jump in the amount of Ultra High Rehab after the acquisition by Laufer. The graph is based on the CITS formula shown in Equation 2 below, without the additional controls. Relator's CITS analysis shows the average days of Ultra High Rehab increased on average 17.82 days immediately after the management agreement. The probability this jump is random is less than

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1 in 100 million, meaning Relator is confident that management agreement caused an increase in the Ultra High Rehab.

78.   To identify the amount of the increase in Ultra High Rehab that can be attributed to Laufer's acquisition and management of Excel, while controlling for patient characteristics before and after the acquisition, Relator also ran a Comparative Interrupted Time Series (CITS) analysis with controls for such patient characteristics, the equation of which is located in Equation 2 below. The variable of interest represents the incremental amount of Ultra High rehab that can be attributed to the management change beyond what could be explained by the other variables. After controlling for the other variables, the effect of the management services agreement was estimated to be 18.21 days, meaning the new management agreement caused an average increase of 18.21 days of Ultra High Rehab. The probability this difference is due to random chance is less than 1 in 100 million, meaning this effect is almost certainly caused by Laufer's acquisition.

79.   Relator's detailed methodology to attribute the change in the average Ultra High Rehab to Laufer's acquisition of the facilities is based on the CITS formula in Equation 2. The detailed patient level controls are discussed in more detail in Equation 1 in on page 33. The contemporaneous effect of the management change on the days of Ultra High Rehab at Oasis or Excel is estimated through the β_{21} coefficient, which represents the extra Ultra High Rehab found in Oasis or Excel (i.e. the jump in the days of Ultra High Rehab) after adjusting for the pre- and post-acquisition trends at non-Laufer SNFs, and also after adjusting for control variables. Although not shown in the figures above, there was no jump in the rate of Ultra High Rehab at non-Laufer SNFs before and after the acquisition periods.

Equation 2. Relator's Comparative Interrupted Time Series (CITS) Model.
The following equations present the CITS model used by Relator. The aggregate short-run and long-run effect of management change on the days of Ultra High Rehab at Oasis or Excel is estimated through the variable β_{21}. This represents the jump in the days of Ultra High Rehab due to the Laufer acquisition while assuming that Oasis's or Excel's average days of Ultra High Rehab would continue at the same rate as other SNFs.

Panel A – CITS Model

$$Y_i = \beta_{00} + \beta_{01}T_i + \beta_{10}time_{1_i} + \beta_{11}time_{1_i}T_i + \beta_{20}rd_{int_i} + \beta_{21}rd_{int_i}T_i + \beta_{30}time_{2_i} + \beta_{31}time_{2_i}T_i + \beta C_i + \varepsilon_i$$

Panel B – Explanation of Variables

Variable	Description
T_i	Whether patient i was treated at the SNF of interest (Oasis or Excel)
$time_{1i}$	Difference in days between the mid-point of the patient's admission and the gap for the acquisition time period.
$time_{2i}$	If the patient was treated after the acquisition, the difference in days between the mid-point of the patient's admission and 30 days after the approval of the acquisition, zero if treated before the acquisition.
$rd_{int i}$	Whether the patient was treated before or after the acquisition
βC_i	Control variables, including the controls identified in Equation 1

C.   Excessive Ultra High Rehab Cannot be Explained by Patients Diagnosis at the SNF

80.   Relator also analyzed whether something unique about the diagnosis assigned to the patients at Laufer facilities could explain why Laufer facility patients receive excessive Ultra High Rehab. Relator's previous analyses used patients' diagnosis assigned at their prior inpatient hospital stay as an independent and objective determination of their medical need for therapy; this additional test for robustness further confirms Laufer facilities' fraudulently excessive Ultra High Rehab.

81.   As shown in Figure 13, Laufer facilities have higher rates of Ultra High Rehab across all principal diagnosis code groups assigned at the SNFs. Specifically, in Panel A, each dot represents a principal diagnosis and the red dots to the right of the 45-degree line show that Laufer facilities provide more days of Ultra High Rehab than other facilities. For example, for patients diagnosed with Osteoarthritis; Generalized and Unspecified, Laufer facilities on average provide 28.65 days of Ultra High Rehab, whereas other facilities on average provide 14.93 days of Ultra

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High Rehab. Similarly, the distribution of average days of Ultra High Rehab by principal diagnosis code group, as shown in Panel B, continues to illustrate that Laufer facilities consistently bill more days of Ultra High Rehab. If the amount of Ultra High Rehab provided by Laufer facilities was comparable to other facilities across different SNF diagnosis codes, the dots would be clustered close to the 45-degree line and the distributions in Panel B would be similar.

Figure 13. Rate of Ultra High Rehab by SNF Diagnosis for Laufer and Other Facilities.
Panel A of the following figure shows, for 62 SNF principal diagnoses, the average Ultra High Rehab treatment length for patients thus diagnosed at Laufer versus non-Laufer facilities. Each dot represents a particular SNF principal diagnosis, e.g., generalized and specialized osteoarthritis and the size of the dot corresponds to its frequency. Relator only includes diagnoses where at least 30 Laufer facility patients were thus diagnosed. Panel B compares the distributions of average Ultra High Rehab treatment lengths at Laufer versus non-Laufer facilities for the individual SNF principal diagnosis codes.

Panel A: Scatterplot of Average Ultra High Rehab by SNF Principal Diagnosis
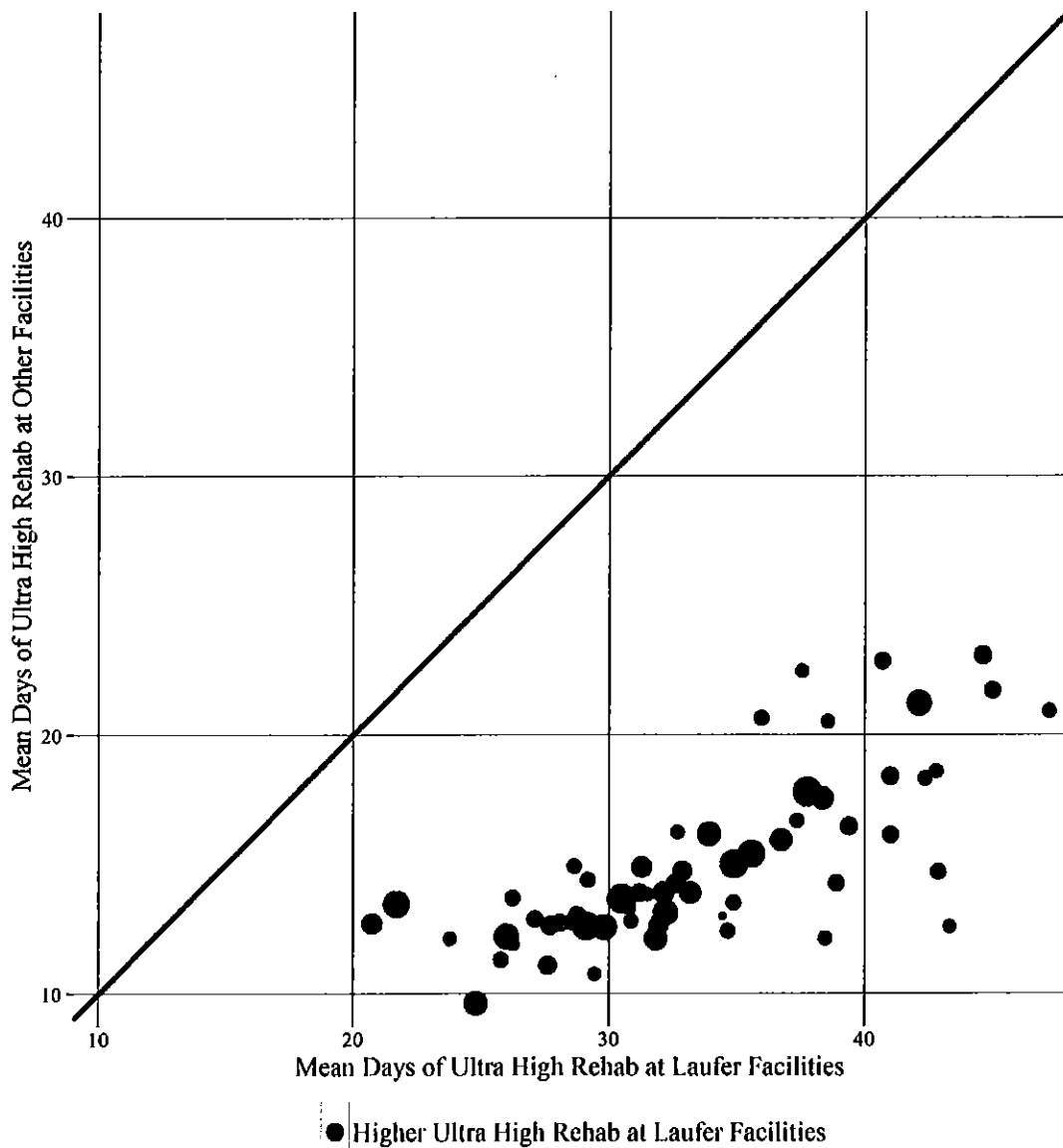
Panel B: Distribution of Average Ultra High Rehab by SNF Principal Diagnosis
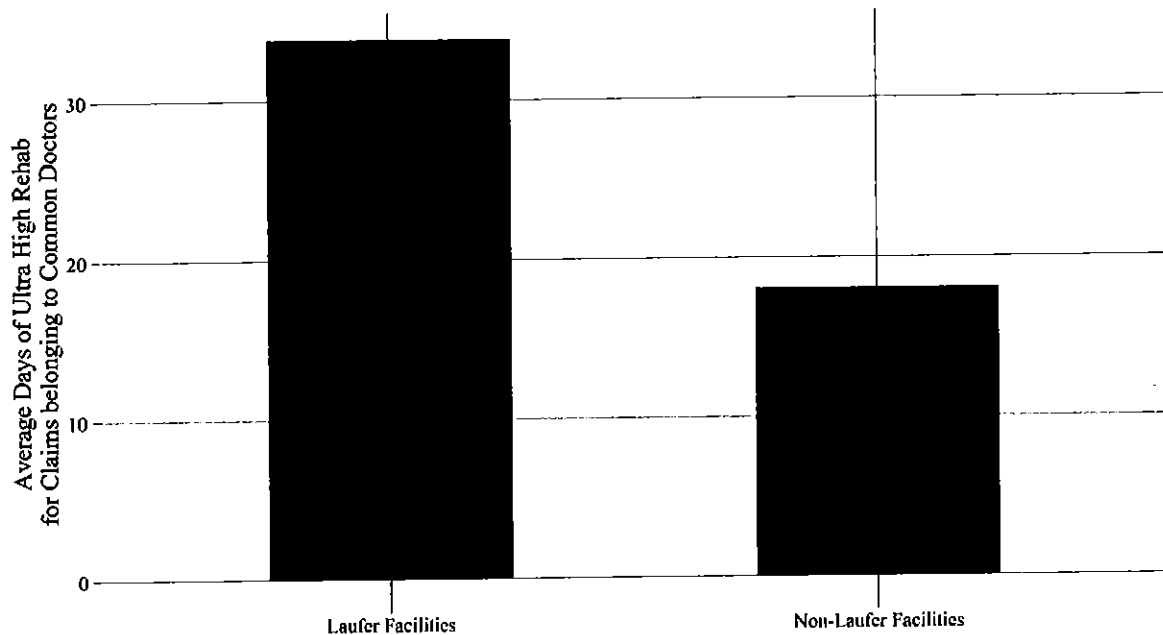

■Laufer Facilities■Non-Laufer Facilities
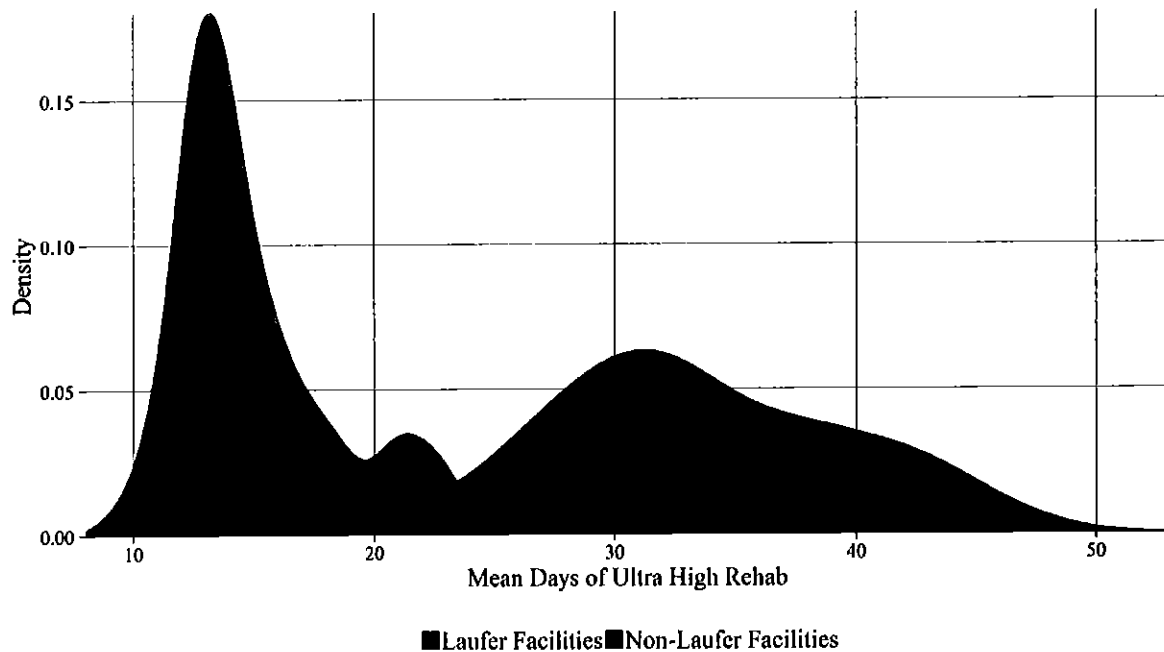
D.   Attending Physicians are not Responsible for the Excessive Ultra High Rehab

82.   Relator also considered whether the excessive Ultra High Rehab could be caused by the preferences or treatment decisions of physicians who work with patients at Laufer's facilities as opposed to some system-wide decision or corporate directive. Could it be that the physicians who attended to patients at Laufer facilities were more disposed to prescribing more intensive therapy than other physicians? To address this question, Relator analyzed the subset of claims for physicians who worked at both a Laufer facility and other non-Laufer facilities to determine whether their patients receive statistically different amounts of Ultra High Rehab at Laufer facilities than at other facilities. Across all admissions involving doctors that treat at least 10 patients at both Laufer and other facilities, patient admissions at Laufer facilities have on average 33.81 days of Ultra High Rehab whereas claims at other facilities have on average only 18.07 days of Ultra High Rehab, as shown in Figure 14. This means that when the same doctor

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oversees patients at Laufer and at other facilities, the patients at Laufer facilities have 15.74 days

of additional Ultra High Rehab than patients at other facilities overseen by *the same doctor*.

Figure 14. Average Days of Ultra High Rehab for Claims Belonging to Common Doctors at Laufer and Other Facilities.
This figure shows the average days of Ultra High Rehab for patients treated by doctors that treat at least 10 patients at Laufer and other facilities.


83.   Analyzing each common doctor individually further demonstrates how it is Laufer

facilities, not doctors, that are responsible for excessive Ultra High Rehab. As shown in Figure 15,

out of 63 doctors who treated at least 10 patients at both Laufer and other non-Laufer facilities, 57

(90.5 percent) had higher average days of Ultra High Rehab at Laufer facilities than at their other

facilities. The probability that random chance explains this many doctors having higher rates of

Ultra High Rehab among their patients at Laufer facilities than among their patients at other

facilities is less than 1 in 100 million. The large statistical significance of this effect indicates it

could not simply be due to physician judgment, but instead is indicative of a system-wide intent to

provide rehab beyond what is medically reasonable and necessary to maximize revenue.

Additionally, Panel B Figure 15 shows the distribution of average Ultra High Rehab days when

these physicians work at Laufer versus other facilities, showing that the exact same doctors are more likely to have patients with excessive amounts of Ultra High Rehab when they are working with patients at Laufer than at other facilities.

Figure 15. Attending Physician Days of Ultra High Rehab at Laufer Versus Other Facilities.
The following figures show the comparison of Ultra High Rehab associated with physicians who treated at least 10 patients at Laufer and other facilities. Panel A plots one point for each attending physician, and shows the average days of Ultra High Rehab at Laufer facilities on the x-axis and at other facilities on the y-axis. The size of the dot corresponds to the number of patients the doctor had at a Laufer facility. Panel B compares the distribution of the average Ultra High Rehab treatment lengths for these doctors at Laufer versus non-Laufer facilities. The graphs are based on more than 12,000 patient admissions at Laufer facilities and approximately 24,000 patient admissions at other facilities for 63 common doctors.

Panel A: Scatter Plot of Average Ultra High Rehab by Attending Physician

Panel B: Distribution of Average Ultra High Rehab by Attending Physician
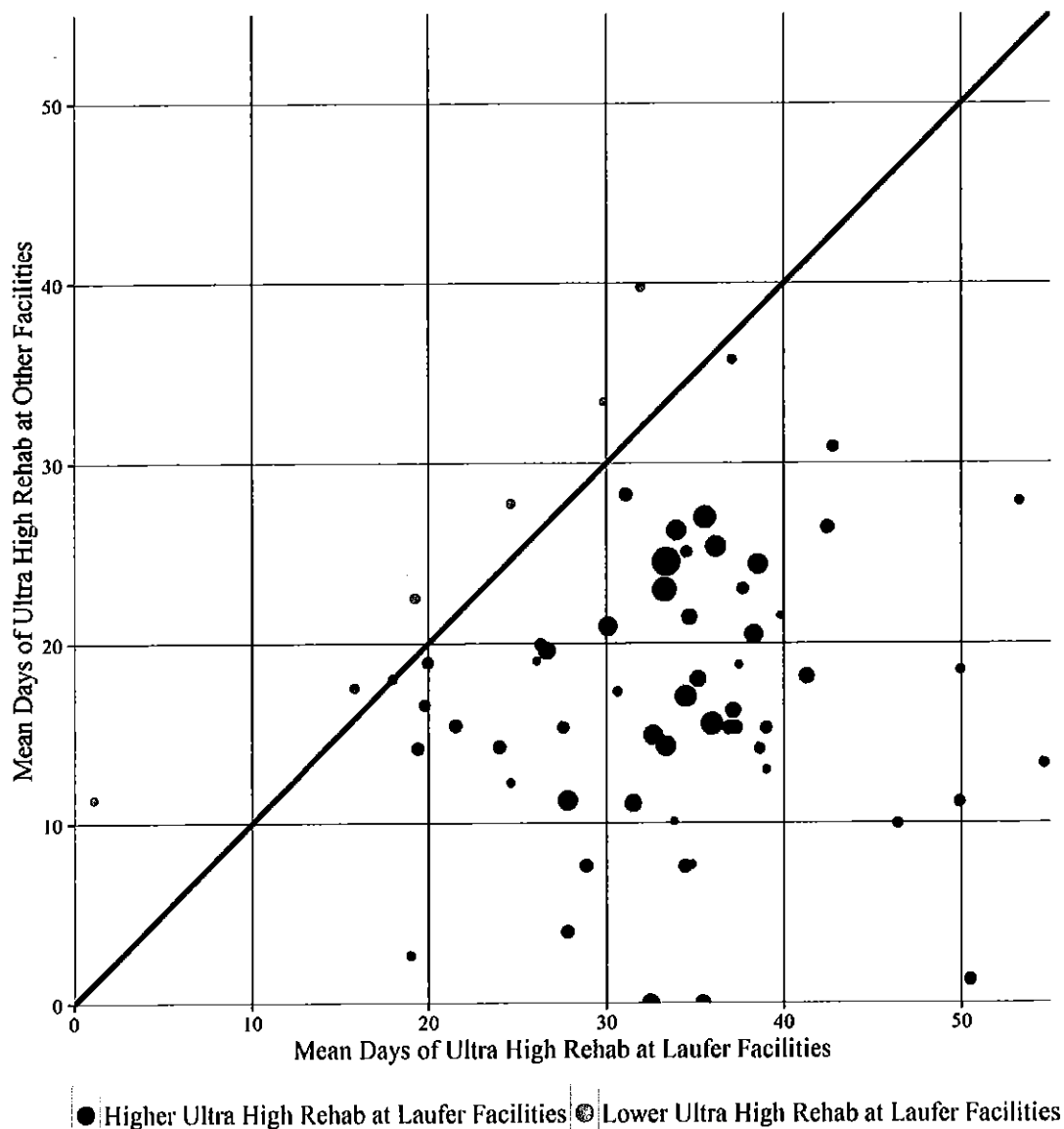
Mean Days of Ultra High Rehab

■Laufer Facilities■Non-Laufer Facilities
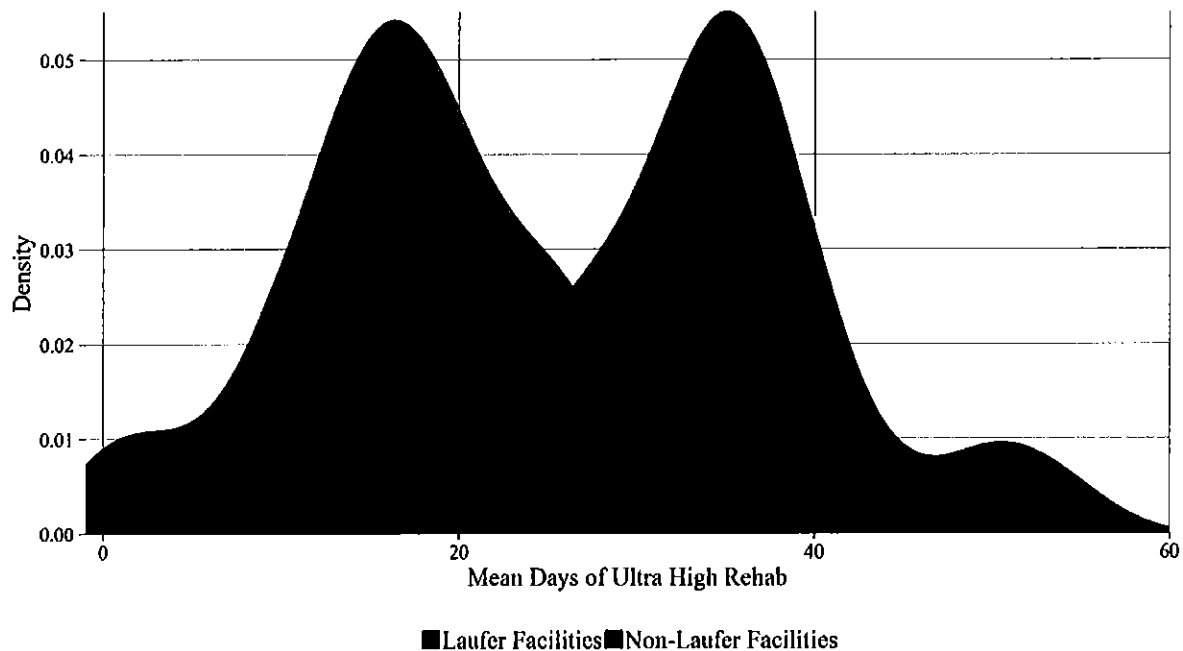
84.   Thus, the excessive amount of Ultra High Rehab provided at Laufer facilities cannot be explained by the professional opinion or judgment of the attending physicians serving at Laufer facilities, but is instead due to system-wide practices in place at Laufer facilities through corporate policies or directives.

> **E.   Excessive Ultra High Rehab is not Explained by the Referring Hospital or the Attending Physician During Patients' Inpatient Hospital Stay**

85.   Relator considered whether the excessive Ultra High Rehab at Laufer facilities might be related to the patient's prior inpatient hospital stay. Specifically, Relator considered whether it was the referring hospital itself or the patient's attending physician at the referring hospital that influenced the amount of Ultra High Rehab provided. Conceivably, a particular hospital or physician could be treating—and discharging to SNFs—a patient population that required a more intensive rehabilitation therapy. To evaluate this possibility, Relator first

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considered a subset of hospitals that send at least 10 patients to both Laufer and other facilities and compared the average days of Ultra High Rehab when they send patients to Laufer facilities versus to those other facilities.

86.   Relator found that the average patient coming from these hospitals receives 32.87 days of Ultra High Rehab at Laufer facilities, but only 17.05 days of Ultra High Rehab when discharged to another SNF. Figure 16 Panel A shows the extent to which patients discharged from the same hospital receive higher amounts of Ultra High Rehab at Laufer facilities than at other facilities. The probability that Laufer facilities would have higher amounts of Ultra High Rehab for patients coming from all 70 referring hospitals is less than 1 in 100 million. Panel B shows the distribution of Ultra High Rehab across these hospitals, which is shifted significantly to the right for Laufer facilities' patients.

Figure 16. Referring Hospital Days of Ultra High Rehab at Laufer Facilities Versus at Other Facilities.
The following figures show the analysis for hospitals that sent at least 10 patients to Laufer facilities and other facilities. Panel A plots one point for each referring hospital and shows the average days of Ultra High Rehab at Laufer facilities on the x-axis and at other facilities on the y-axis. The size of the dot corresponds to the number of patients discharged to Laufer facilities. Panel B compares the distribution of the average Ultra High Rehab treatment lengths for patients from these hospitals at Laufer versus non-Laufer facilities. The graphs are based on more than 18,000 patient admissions to Laufer facilities and more than 414,000 admissions to other facilities for 70 common referring hospitals.

Panel A: Scatterplot of Average Ultra High Rehab by Referring Hospital

Panel B: Distribution of Days of Ultra High Rehab by Referring Hospital

■Laufer Facilities■Non-Laufer Facilities
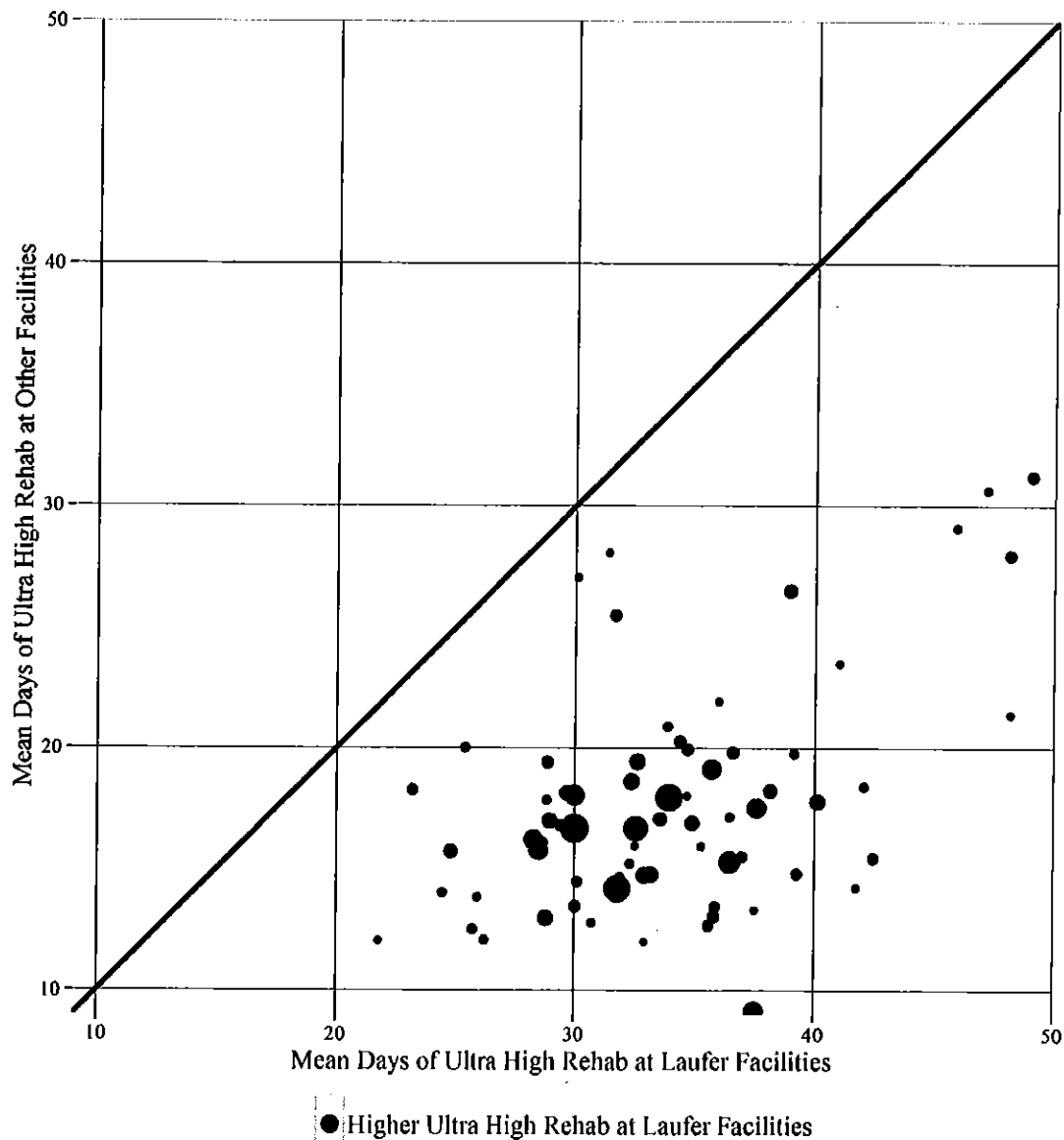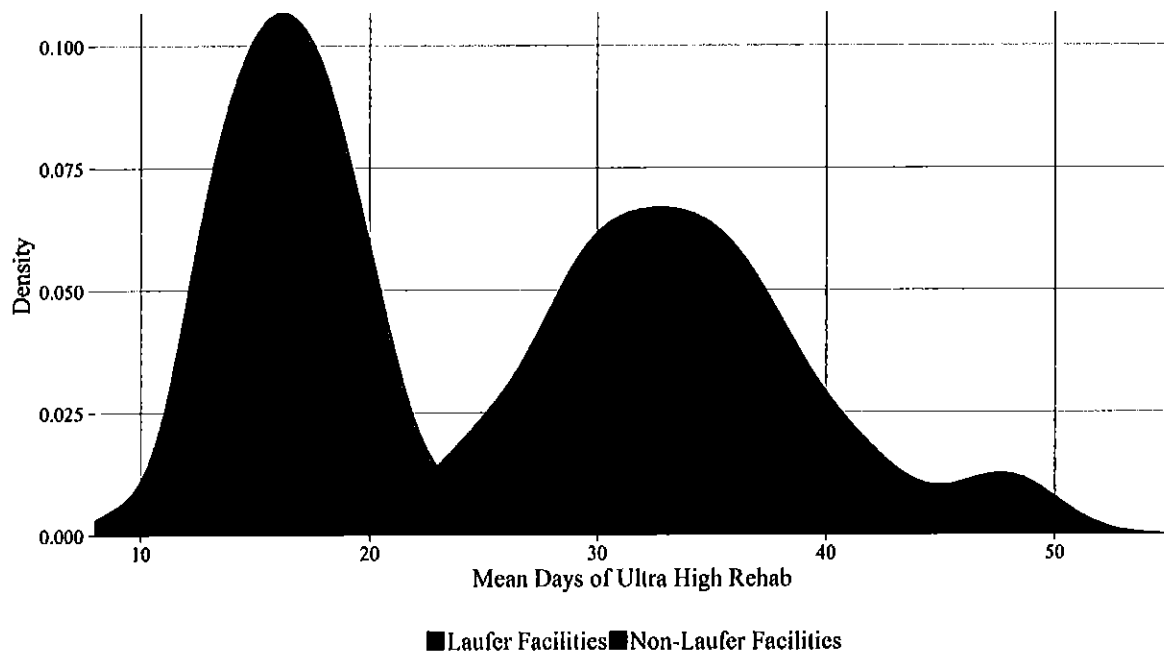
87.   To further consider whether the Ultra High Rehab length could be related to the patient's prior inpatient hospital stay as well as the inpatient attending physician, Relator next analyzed a subset of claims for common inpatient attending physicians that treated at least 10 patients that later were discharged to both Laufer facilities and to other SNFs. Across this subset of claims, the average days of Ultra High Rehab for patients that were treated at Laufer facilities was 32.82 days, compared to 17.09 days at other facilities.

88.   The graphs in Figure 17 show that out of 380 common inpatient attending physicians, 372 (97.9%) had more days of Ultra High Rehab at Laufer facilities than at other facilities. This includes one doctor whose patients on average had 55.01 days of Ultra High Rehab when treated at Laufer facilities, but only 5.07 days of Ultra High Rehab on average when treated at other facilities. Panel A shows the sheer number of doctors whose patients had higher rates of Ultra High Rehab at Laufer facilities versus other facilities, whereas Panel B shows the distribution

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of days of Ultra High Rehab by inpatient attending physician, illustrating Laufer facilities' significantly higher amounts of Ultra High Rehab even for the same physician at different facilities.

Figure 17. Inpatient Attending Physician Days of Ultra High Rehab at Laufer and Other Facilities.
Panel A of the following figure shows, for each inpatient attending physician sending patients to both Laufer facilities and other facilities, the average Ultra High Rehab treatment length for patients sent to Laufer versus non-Laufer facilities. Panel B compares the distributions of the averages at Laufer versus non-Laufer facilities.

Panel A: Scatterplot of Average Ultra High Rehab by Inpatient Attending Physician
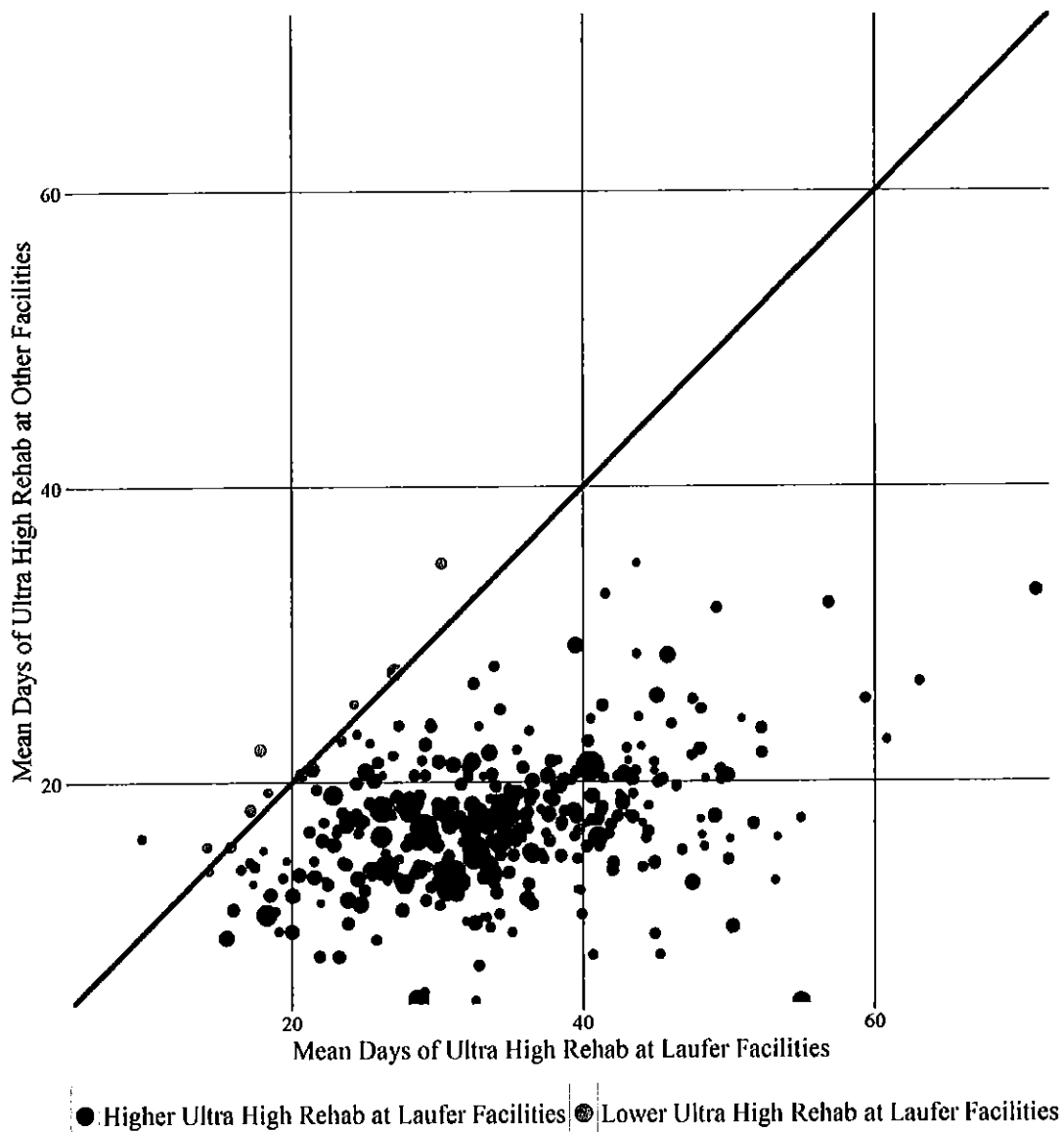
● Higher Ultra High Rehab at Laufer Facilities   ◉ Lower Ultra High Rehab at Laufer Facilities

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Panel B: Distribution of Days of Ultra High Rehab by Inpatient Attending Physician

■Laufer Facilities■Non-Laufer Facilities
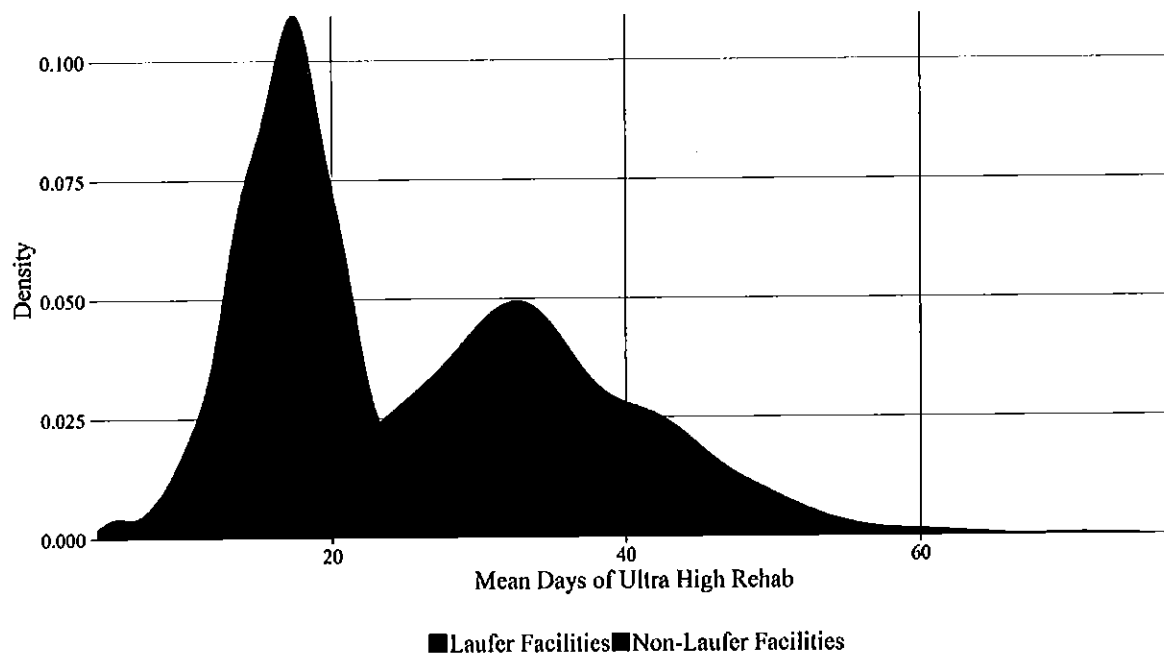
89.   This analysis shows that the excessive Ultra High Rehab at Laufer facilities cannot be attributed to the patients' inpatient hospital stay prior to their SNF visit. Specifically, the fraudulent activity was not caused by the referring inpatient hospital itself, nor the attending physician during the inpatient hospital stay.

F.   Unique Characteristics of Laufer Facility Patients do not Account for Excessive Ultra High Rehab

90.   Relator also considered whether it might be something else about Laufer facility patients that could justify their greater amounts of Ultra High Rehab. Although Relator already considered a variety of patient characteristics in the fixed effect linear regression model, Relator also analyzed the subset of patients that were treated both at Laufer facilities and at least one other SNF. For this subset of patients, the average patient receives 25.07 days of Ultra High Rehab when attending Laufer facilities, and only 13.23 days of Ultra High Rehab when at another SNF.

91.   Figure 18 shows that out of 163 patients with at least 3 stays at Laufer facilities and at least 3 stays non-Laufer facilities, 113 (or 69.3 percent) were billed at higher amounts of Ultra

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High Rehab when visiting Laufer facilities. Panel B of Figure 18 shows the distribution of the days

of Ultra High Rehab for the patients admitted to both Laufer and other facilities.

Figure 18. Days of Ultra High Rehab for Patients Admitted to Both Laufer and Other Facilities.
The following figures show the analysis for patients that were treated at least 3 times at Laufer facilities and at least 3 times at non-Laufer facilities. Panel A plots one point for each patient and shows the average days of Ultra High Rehab at Laufer facilities on the x-axis and at other facilities on the y-axis. The size of the dot corresponds to the number of patient stays at Laufer facilities. Panel B compares the distribution of the average Ultra High Rehab treatment lengths for these patients' stays at Laufer facilities versus at non-Laufer facilities. The graphs are based on more than 500 patient admissions at Laufer facilities and more than 700 admissions at other facilities for 163 common patients.

Panel A: Scatterplot of Average Ultra High Rehab by Common Patient

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Panel B: Distribution of Days of Ultra High Rehab by Common Patient
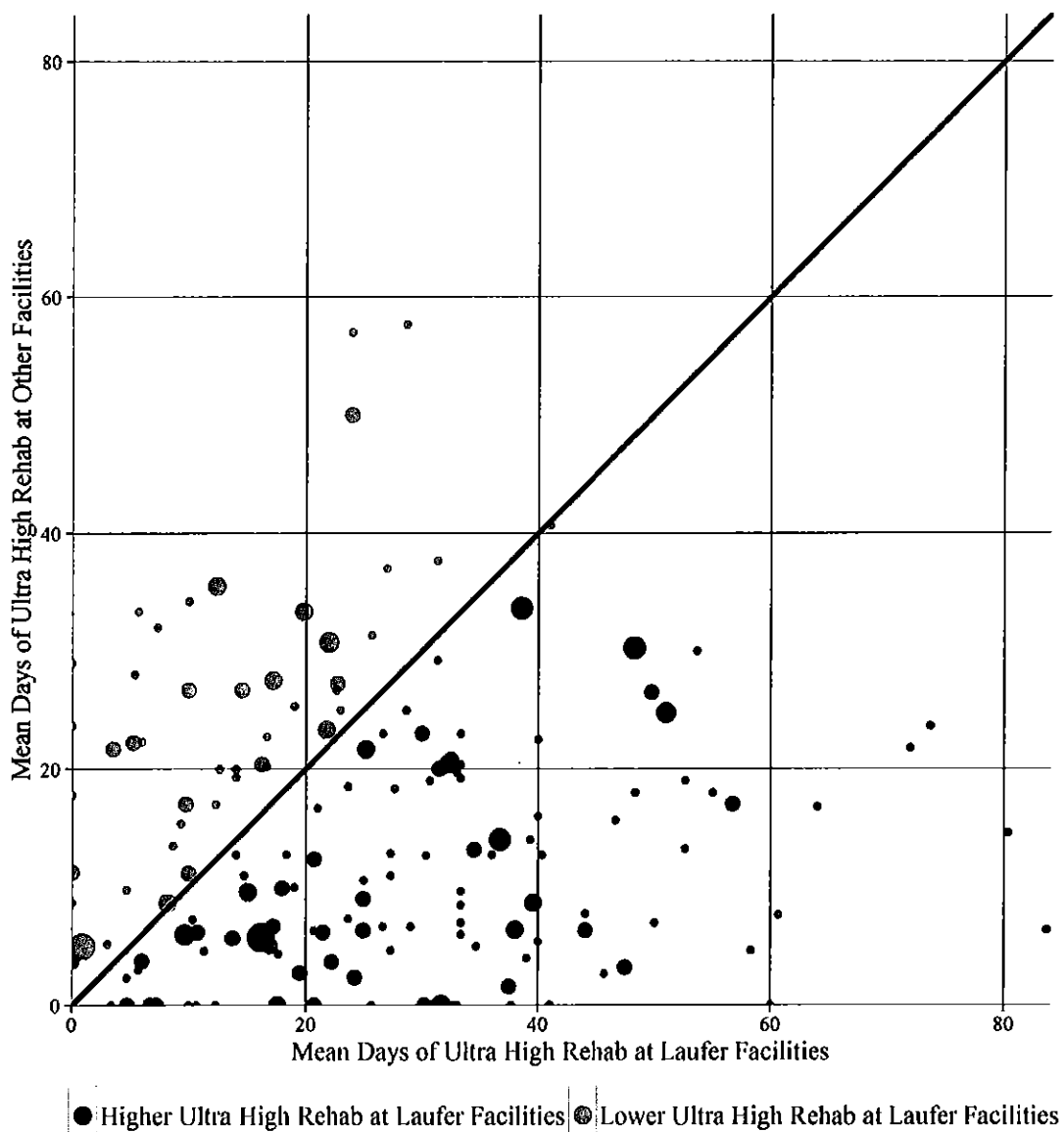
■Laufer Facilities■Non-Laufer Facilities
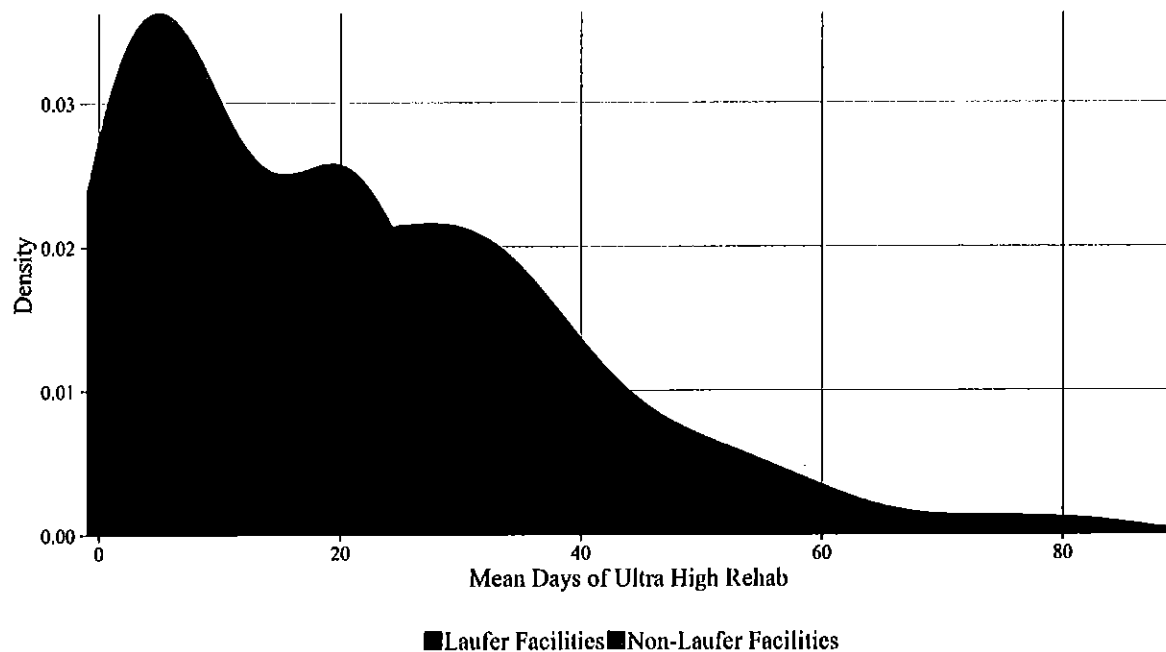
92.   Even when the *same patient* is treated at a Laufer facility and another facility, the patient receives higher rates of Ultra High Rehab when treated at Laufer 69.3 percent of the time. The probability this is due to random chance is less than 1 in 835 thousand. Thus, the excessive Ultra High Rehab is not due to patient characteristics but to unique practices in place at Laufer facilities.

G.   Summary of Determining What Caused the Excessive Ultra High Rehab

93.   Relator has considered a number of potential explanations above to determine what phenomenon or which institution or actor could be responsible for the high amounts of Ultra High Rehab at Laufer facilities. The excessive use of Ultra High Rehab is highly significant across 57 inpatient diagnosis groups and 9 Laufer facilities, indicating that it is not driven by a particular patient medical characteristic nor only a few Laufer facilities. Relator eliminated the possibility that the excessive Ultra High Rehab might be justified by or due to patient characteristics, medical diagnoses or treatment, overseeing physician preferences, patient population at referring hospitals

or inpatient physician behavior. Based on this, Relator has demonstrated that the only plausible explanation as to the cause of the excessive Ultra High Rehab reimbursements is that Laufer facilities as a system have implemented practices to fraudulently maximize the amount of rehab it can bill to Medicare, beyond what is reasonable and necessary.

    4.   **Laufer Keeps its Patients and Provides Skilled Nursing Services Longer than Necessary**

        A.   **Laufer Facilities Consistently Provides an Excessive Length of Stay for Patients Across Principal Diagnosis Groups**

94.   In addition to providing excessive Ultra High Rehab during the length of stay, the evidence indicates that Laufer facilities are keeping their patients longer than necessary.[38] Relator evaluated whether Laufer facility patients needed skilled nursing care during the entirety of their stay at its facilities, or if the length of stay was excessive and unnecessary. Relator examined whether there was also excessive length of stay for patients by examining specific medical conditions upon admission. For the same 57 principal diagnosis categories analyzed previously, Relator found that Laufer facilities keep patients for longer than other SNFs for all 57 of those diagnoses, indicating that Laufer facilities keep patients longer than needed for a given medical condition. For example, nationwide, the average patient with Pneumonia; Organism Unspecified will end up receiving approximately 27 days of skilled nursing care, whereas the average patient with Fracture of the Neck of Femur (hip) will end up receiving approximately 35 days of skilled nursing care at an SNF. Relators method incorporates this expectation that certain diagnoses might require greater amounts of skilled nursing care on average.

95.   Laufer facilities' excessive length of stay across a variety of principal diagnosis code groups is demonstrated in Figure 19. Panel A shows average length of stay at a Laufer facility

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[38] Length of stay in this section is calculated based on the total days an SNF billed for a patient's skilled nursing services on a given patient admission. This measure does not count days in which the patient stayed at a facility but the facility was not reimbursed.

on the x-axis (horizontal) and the average length of stay at all other non-Laufer SNFs on the y-axis (vertical). Each dot in Panel A represents a principal diagnosis code group (bin) that patients had at their prior inpatient hospital stay. The size of the dots is proportional to the number of claims at the Laufer facility, so that larger dots represent proportionally more claims. If the average length of stay at the Laufer facility for each diagnosis code were similar to the average length of stay at other SNFs, then the dots would cluster on the 45-degree line. In Panel A, the red dots to the right of the 45-degree line show that Laufer facilities had higher lengths of stay for patients in all 57 inpatient principal diagnosis groups. *The graph demonstrates that Laufer facilities' higher average length of stay is not due to having sicker patients*, but rather is widespread even after controlling for patient's hospital diagnosis prior to admission to an SNF. The probability that random chance explains these many hospital diagnosis groups having patients with higher lengths of stay at Laufer facilities than among their patients at other facilities is less than less than 1 in 100 million.

Figure 19. Average Length of Stay for Patients Admitted to Both Laufer and Other Facilities.
Panel A shows, for 57 inpatient principal diagnoses (each represented by a dot), the average length of stay for patients thus diagnosed at Laufer versus at non-Laufer facilities. We include only diagnoses where at least 100 patients were thus diagnosed at Laufer facilities. Panel B shows the distribution of average length of stay at Laufer versus at non-Laufer facilities for each of the principal diagnosis groups.

Panel A: Scatterplot of Average Length of Stay by Inpatient Principal Diagnosis

Mean Days of Length of Stay at Laufer Facilities

● Higher Length of Stay at Laufer Facilities

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Panel B: Distribution of Average Length of Stay by Principal Diagnosis
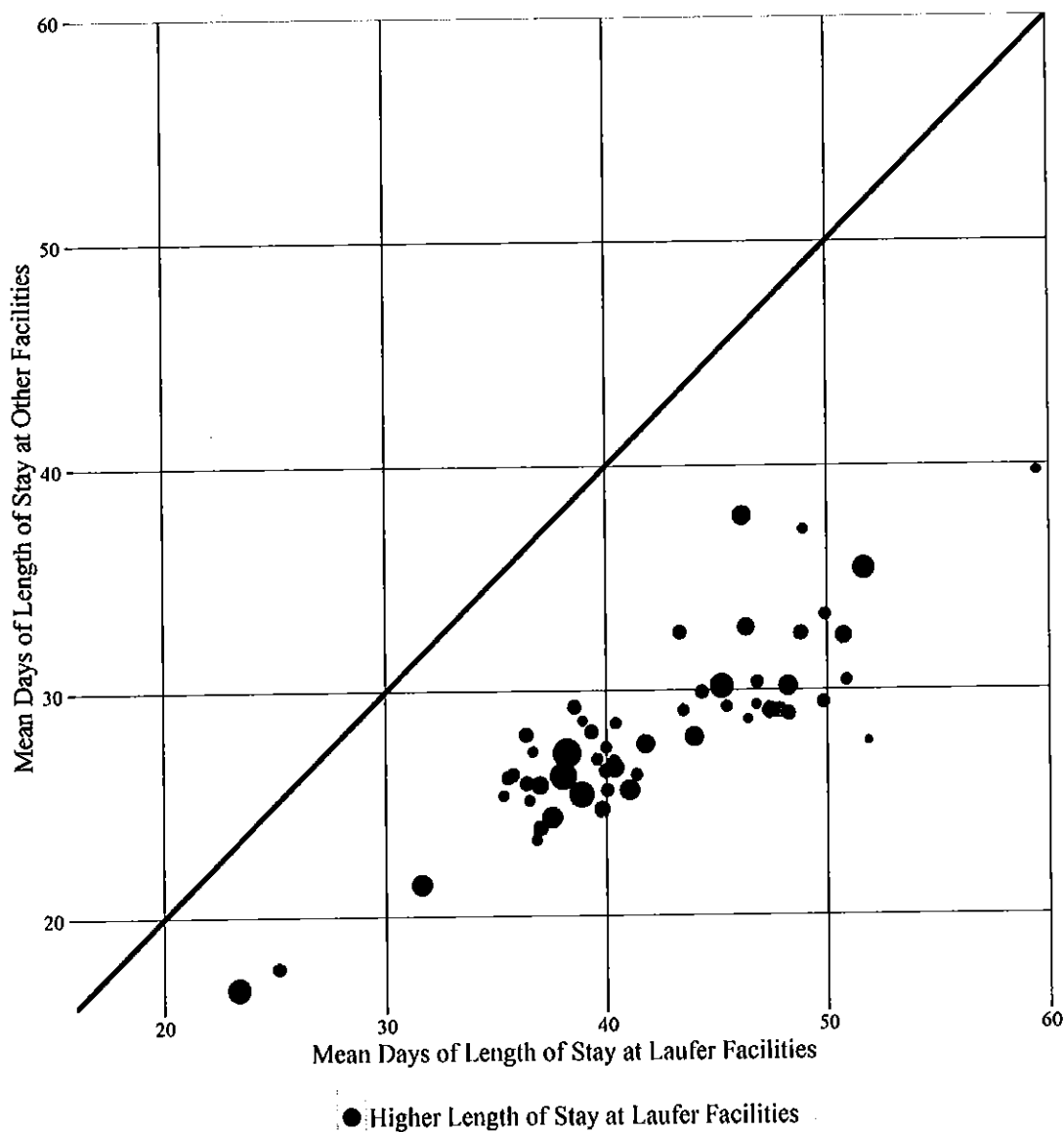
■Laufer Facilities■Non-Laufer Facilities
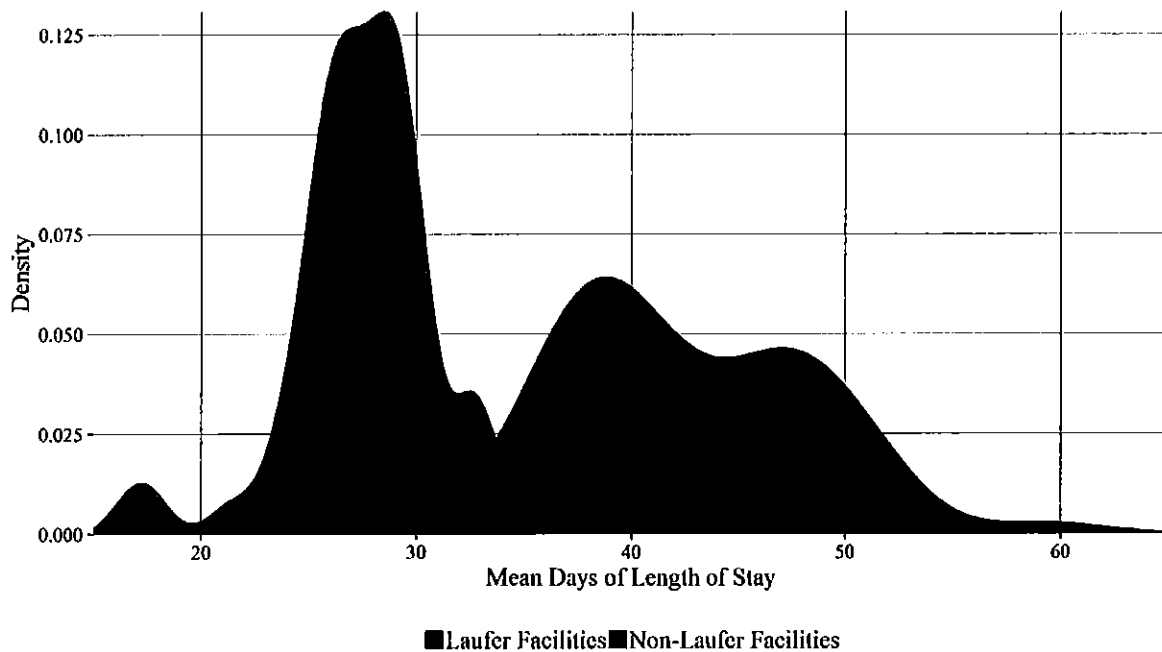
96.   To illustrate Laufer facilities' excessive length of stay, Laufer facilities had 1,027

patients diagnosed with Other Diseases of the Digestive System during their inpatient hospital stay

prior to admission. These patients on average received 38.86 days of skilled nursing care at Laufer

facilities. However, patients at other facilities who were diagnosed with Other Diseases of the

Digestive System only received 25.38 days of skilled nursing care on average.

97.   Additionally, for each principal diagnosis code group, Relator calculated the

statistical probability that Laufer facilities' average length of stay would exceed the nationwide

average length of stay. Relator found that Laufer facilities have statistically significant higher

lengths of stay for patients diagnosed under 57 out of 57 of the principal diagnosis groups. These

principal diagnosis code groups are identified on Table 5, along with the difference in length of

stay and statistical probability. The table is ranked by those diagnoses groups with the most

frequent admission at Laufer facilities, and the probabilities shown in the table demonstrate that

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these differences between Laufer facilities and non-Laufer facilities could not be due to random chance.

Table 5. Average Length of Stay by Principal Diagnosis Code Group.

Principal Diagnosis Group	# Admissions Laufer	Avg. Length of Stay at Laufer Facilities	Avg. Length of Stay at Other Facilities	Laufer Facility Rate Relative to Others	Statistical Significance[39]
Unspecified Septicemia	1380	38.21	27.22	140%	< 1 in 100 Million
Other Diseases of the Circulatory System	1132	38.02	26.21	145%	< 1 in 100 Million
Other Diseases of the Digestive System	1027	38.86	25.38	153%	< 1 in 100 Million
Other Injury and Poisoning	860	45.24	30.16	150%	< 1 in 100 Million
Osteoarthritis; Localized	856	23.34	16.77	139%	< 1 in 100 Million
Fracture of Neck of Femur (hip)	735	51.67	35.40	146%	< 1 in 100 Million
Other Neoplasms	598	31.62	21.41	148%	< 1 in 100 Million
Congestive Heart Failure; Nonhypertensive	589	37.53	24.36	154%	< 1 in 100 Million
Other Diseases of the Musculoskeletal System and Connective Tissue	533	41.04	25.56	161%	< 1 in 100 Million
Urinary Tract Infection; Site Not Specified	524	48.23	30.17	160%	< 1 in 100 Million
Other Endocrine; Nutritional; and Metabolic Diseases and Immunity Disorders	523	43.97	27.93	157%	< 1 in 100 Million
Pneumonia; Organism Unspecified	503	40.34	26.58	152%	< 1 in 100 Million
Rehabilitation Care; Fitting of Prostheses; and Adjustment of Devices	482	46.17	37.76	122%	< 1 in 100 Million
Acute Renal Failure	473	41.76	27.62	151%	< 1 in 100 Million
Occlusion of Cerebral Arteries	386	46.33	32.79	141%	< 1 in 100 Million
Other Diseases of the Respiratory System	380	36.99	25.79	143%	< 1 in 100 Million
Delirium Dementia and Amnestic and Other Cognitive Disorders	357	50.75	32.39	157%	< 1 in 100 Million
Other Diseases of the Nervous System and Sense Organs	350	47.43	29.08	163%	< 1 in 100 Million
Obstructive Chronic Bronchitis	322	39.79	24.72	161%	< 1 in 100 Million
Acute Myocardial Infarction	265	37.00	23.88	155%	< 1 in 100 Million
Infection and Inflammation--internal Prosthetic Device; Implant; and Graft	257	36.35	28.05	130%	< 1 in 160 Thousand
Cellulitis and Abscess of Leg	246	47.85	29.08	165%	< 1 in 100 Million
Respiratory Failure	240	39.98	26.42	151%	< 1 in 100 Million
Other Diseases of the Blood and Blood-forming Organs	239	36.38	25.89	141%	< 1 in 45 Million

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[39] The statistical significance of these represents the probability that the difference between the average length of stay at Laufer and other facilities is due to random occurrences.

Principal Diagnosis Group	# Admissions Laufer	Avg. Length of Stay at Laufer Facilities	Avg. Length of Stay at Other Facilities	Laufer Facility Rate Relative to Others	Statistical Significance[39]
Aspiration Pneumonitis; Food/vomitus	231	39.32	28.17	140%	< 1 in 5 Million
Other Mental Illness	229	48.83	32.51	150%	< 1 in 100 Million
Syncope	225	48.27	28.95	167%	< 1 in 100 Million
Other Symptoms; Signs; and Ill-defined Conditions and Factors Influencing Health Status	224	38.53	29.28	132%	< 1 in 427 Thousand
Other Diseases of the Skin and Subcutaneous Tissue	221	43.32	32.58	133%	< 1 in 847 Thousand
Other Infectious and Parasitic Diseases	210	35.56	26.14	136%	< 1 in 51 Thousand
Malfunction of Device; Implant; and Graft	207	35.76	26.27	136%	< 1 in 245 Thousand
Diabetes with Other Manifestations	207	44.33	29.91	148%	< 1 in 100 Million
Atrial Fibrillation	196	40.04	25.57	157%	< 1 in 100 Million
Hypovolemia	193	49.82	29.46	169%	< 1 in 100 Million
Hemorrhage of Gastrointestinal Tract	179	40.35	26.84	150%	< 1 in 75 Million
Osteoarthritis; Generalized and Unspecified	177	25.16	17.69	142%	< 1 in 5 Million
Fracture of Vertebral Column Without Mention of Spinal Cord Injury	177	46.85	30.35	154%	< 1 in 100 Million
Fracture of Pelvis	164	49.91	33.34	150%	< 1 in 100 Million
Intestinal Infection	159	41.36	26.25	158%	< 1 in 100 Million
Other Diseases of the Genitourinary System	157	39.59	26.95	147%	< 1 in 4 Million
Epilepsy	152	43.48	29.10	149%	< 1 in 29 Million
E. Coli Septicemia	145	39.97	27.48	145%	< 1 in 143 Thousand
Other Intracranial Injury	145	48.19	28.96	166%	< 1 in 100 Million
Other Connective Tissue Disease	140	50.89	30.41	167%	< 1 in 100 Million
Postoperative Infection	140	40.44	28.54	142%	< 1 in 763 Thousand
Pathological Fracture	139	45.47	29.27	155%	< 1 in 43 Million
Alcohol-related Disorders	135	36.83	23.37	158%	< 1 in 2 Million
Other Gram Negative Septicemia	134	38.20	27.29	140%	< 1 in 16 Thousand
Hypertensive Heart And/or Renal Disease	131	36.50	25.13	145%	< 1 in 73 Thousand
Staphylococcal Septicemia	127	36.68	27.30	134%	< 1 in 1 Thousand
Congestive Heart Failure	124	35.35	25.34	140%	< 1 in 8 Thousand
Other Residual Codes; Unclassified; All E Codes	122	46.80	29.35	159%	< 1 in 100 Million
Fracture of Humerus	120	48.94	37.14	132%	< 1 in 32 Thousand
Other Venous Embolism and Thrombosis	120	38.90	28.67	136%	< 1 in 2 Thousand
Other Fracture of Lower Limb	111	59.46	39.69	150%	< 1 in 100 Million
Transient Cerebral Ischemia	111	46.41	28.71	162%	< 1 in 100 Million

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Principal Diagnosis Group	# Admissions Laufer	Avg. Length of Stay at Laufer Facilities	Avg. Length of Stay at Other Facilities	Laufer Facility Rate Relative to Others	Statistical Significance[39]
Other Nervous System Symptoms and Disorders	102	51.84	27.70	187%	< 1 in 100 Million

98.   The excessive length of stay is notable across all claims in the aggregate as well.

Figure 20 shows the distribution of the length of stay for all patients at Laufer versus other non-

Laufer facilities. As shown in the figure, Laufer facilities' distribution of length of stay is higher

than the non-Laufer facility distribution, demonstrating that Laufer facilities keep their patients

longer than other facilities. For example, 52.13% of Laufer facility patients stay at least 30 days,

compared to 34.49% of patients at non-Laufer facilities.

Figure 20. Proportion of Patients by Length of Stay.
This figure shows the percentage of patients receiving at least a given length of stay specified on the x-axis. Laufer facilities' distribution is in red and non-Laufer facilities are in blue.
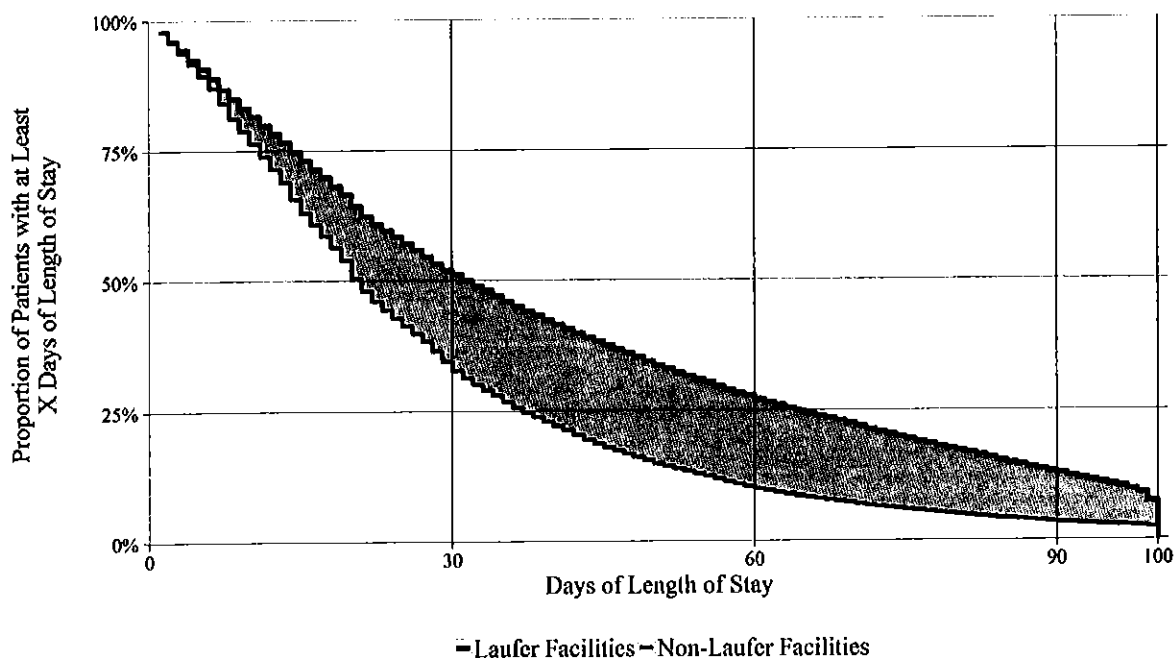
99.   The presence of excessive length of stay at Laufer facilities is even more notable

for patients with higher lengths of stay. Specifically, 7.41% of patients at Laufer facilities stay for

at least 100 days, whereas 2.36% of patients at other facilities stay for 100 days or more, meaning Laufer facilities have 3.14 times as many patients receiving 100 days or more of skilled nursing services. Similarly, 27.86% of patients at Laufer facilities stay at least 60 days, whereas only 10.49% of patients at other facilities stay at least 60 days. The probability that these differences are due to random chance are both less than 1 in 100 million. This evidence indicates that Laufer facilities' length of stay is excessive and they are keeping patients an unnecessarily long number of days in their facility.

B. **The Excessive Length of Stay is Systemic Across Laufer Facilities and not Limited to a Few Facilities**

100.   To consider whether the excessive length of stay is limited to a few facilities or a systemic issue, Relator also analyzed trends for individual Laufer facilities and compared them to other individual SNFs. Figure 21 shows the average length of stay provided to patients at all facilities in the United States and is ordered from facilities with the shortest length of stay to the longest. As shown in the figure, the trend of excessive length of stay is prevalent across Laufer facilities (presented in red). All 9 Laufer facilities are in at least the 80th percentile of all facilities based on average length of stay. Out of more than 15,000 facilities with at least 100 Medicare patients, Laufer has 8 facilities in the top 2,000 facilities. It is difficult to overstate how impossible it would be for this scenario to exist due to random chance. The probability of Laufer having 8 out of 9 facilities in the top 2,000 occurring randomly is less than 1 in 1 million,[40] meaning the behavior cannot be attributed to a few rogue facilities, but is instead systemic and consistent throughout the Laufer system. This indicates that the unreasonable and unnecessary length of stay at Laufer facilities is due to directives from the Laufer system.

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[40] This statistical probability is based on a uniform distribution. For example, since there are more than 15,000 SNFs, the top 2,000 facilities would be equivalent to the top 13.21% of facilities. Hence, we should only expect that 13.21% of Laufer's 9 facilities, or only 1.2 of its facilities, should be among the top 2,000 facilities, as opposed to 8 Laufer facilities, which we observe.

Figure 21. Distribution of Average Length of stay by Individual SNF.
The following figure shows, for every SNF that treated at least 100 patients, the average number of Ultra High Rehab treatment days across all patients in that facility. Laufer facilities are highlighted in red. This graph comprises more than 15,000 SNFs.

I Laufer Facility I Non-Laufer Facility
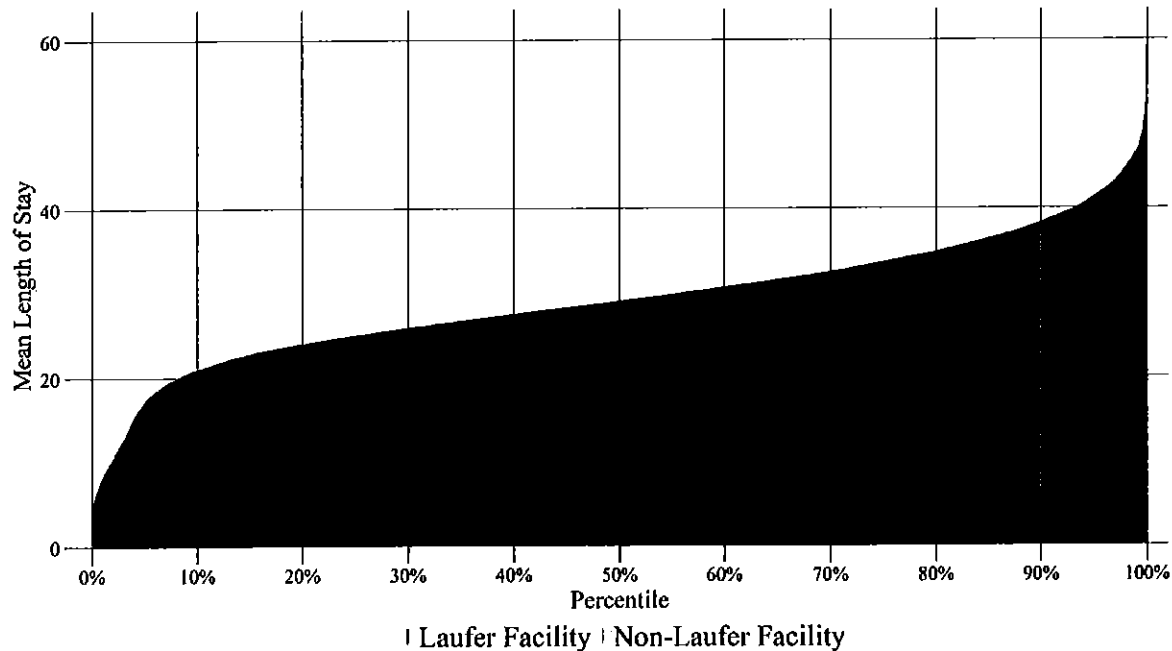
C.   Patient Characteristics and Demographics do not Explain the Excessive Length of Stay at Laufer facilities

101.   Relator also considered whether the extra length of stay could be attributed to a variety of other factors, including patient characteristics such as age, gender, and race, county-level demographic factors such as unemployment rate, and patient health characteristics such as principal diagnosis code, secondary diagnosis codes, and whether the patient had surgery. To do this, Relator ran the fixed effect linear regression model discussed in Equation 1 on page 33. For this regression, Relator used the patient's total length of stay as the dependent variable to calculate Laufer facilities' precise impact on a patient's projected length of stay. This regression allowed Relator to isolate the impact that being treated at a Laufer facility would have on a patient's expected length of stay at an SNF. For example, Relator has found that, given two patients with the same age and gender, from the same county, with the same principal and secondary diagnoses from their prior hospital inpatient stay, same surgery status, and hospital inpatient same length of

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stay, the Laufer facility patient would have a length of stay that is on average 13.82 more days longer than the patient at a non-Laufer facility.

102.   The results of the regression are shown in Table 6. The Laufer coefficient for length of stay is 13.82. This means that after controlling for the characteristics included in Equation 1 on page 33 above, patients at Laufer facilities can be expected to be treated an extra 13.82 beyond the length of stay at other facilities. This result is highly statistically significant with the probability that this observed difference is due to random chance being less than 1 in 100 million. The regressions demonstrate that the length of stay at Laufer facilities is extremely outside of the norms of what is acceptable and reasonable in industry for patients with similar characteristics.

Table 6. Results of Fixed Effect Linear Regression Model for Length of Stay
Relator used a linear regression to analyze approximately 13 million admissions at Laufer and other SNFs. The results are presented in the following table. The coefficient is listed first and the p-value is in parenthesis, which represents the statistical significance of the coefficient. A lower p-value means the result is more statistically significant. Coefficients were not included for categorical variables and instead are labeled with a "Yes" to indicate the variable was controlled for in the regression. The Laufer coefficient is added to the length of stay at other facilities to get the expected Laufer facility length of stay after including controls.

|	Regression Coefficients (See description in table header)
Poverty Rate	-0.0159 (<0.0001)
Unemployment Rate	-0.1513 (<0.0001)
Log Median Income	-1.4186 (<0.0001)
No High School Diploma Rate	0.1932 (<0.0001)
Season Control Variables	Yes
Age Control Variables	Yes
Sex Control Variables	Yes
Inpatient Length of Stay × Inpatient Principal Diagnosis Category	Yes
Inpatient Surgical DRG × Inpatient Principal Diagnosis Category	Yes
Inpatient Secondary Diagnosis Categories	Yes
RUCC Control	Yes
Laufer Facilities Coefficient for Unexplained Length of Stay	13.82 (<0.0001)
Other Facilities Average	28.05
Laufer Facilities Calculated Effect	**41.87**

Laufer Facilities Relative Effect	149.27%

103.   Another regression method to estimate Laufer facilities' effect on length of stay is to estimate the regression without the skilled nursing chain variable and create an estimate of the expected length of stay for each individual claim. For each skilled nursing chain, the average difference between the predicted length of stay from the regression and the actual length of stay billed on the claim is calculated, which is referred to as a residual. The difference between these two values represents the unexplained length of stay that is caused by each skilled nursing chain. Figure 22 shows the average unexplained length of stay for each skilled nursing chain, with Laufer facilities plotted in red. Laufer facilities' average unexplained length of stay by this measure is 13.72 days, making it the 2nd highest among all skilled nursing chains with at least 5,000 claims.

Figure 22. Average Unexplained Length of Stay for SNF Chains.
The following figure plots the results of the regression from Equation 1, but run without the Laufer fixed effect variable and with the dependent variable of length of stay. All other variables included were the same. The regression was run based on 319 SNF chains with at least 5,000 patient admissions from 2011 through 2016Q3. The small vertical lines off of the point estimates represent the confidence interval for the systems' unexplained Ultra High Rehab. Since chains with at least 5,000 admissions were included, the large number of claims result in small confidence intervals.

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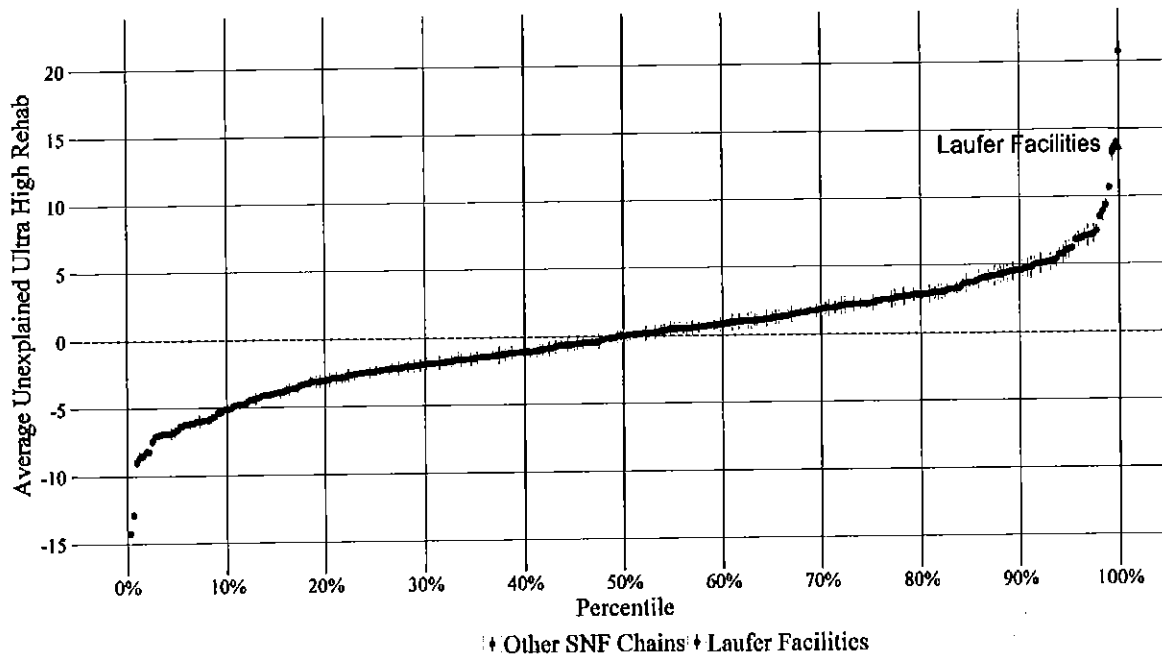
104.   This evidence indicates that not only are Laufer facilities providing excessive Ultra High Rehab, but Laufer facilities are also keeping patients longer than necessary. These results are statistically significant at an extremely high level and cannot be explained by other patient and demographic characteristics.

**D.   Attending Physicians are not Responsible for the Excessive Length of Stay**

105.   Relator also considered whether the extra length of stay could be caused by the preferences or treatment decisions of physicians who work with patients at Laufer's facilities as opposed to some system-wide decision or corporate directive. To address this, Relator analyzed the subset of claims for physicians who worked at both a Laufer facility and other non-Laufer facilities, to determine whether their patients receive statistically longer lengths of stay at Laufer facilities than at other non-Laufer facilities. Across all admissions involving doctors that treat at least 10 patients at both Laufer and other facilities, patients at Laufer facilities have an average length of stay of 41.85 days, whereas patients treated by the same doctors at non-Laufer facilities have an average length of stay of only 29.95 days. This means that when the same doctor oversees patients at both Laufer and non-Laufer facilities, the patients at Laufer facilities have a length of stay that is 11.90 days longer on average, or 39.73 percent longer.

106.   Analyzing each common doctor individually further demonstrates how it is Laufer facilities, not doctors, that is responsible for excessive length of stay. As shown in Figure 23, out of 63 doctors who treated at least 10 patients at both Laufer and other non-Laufer facilities, 57 (90.5 percent) had higher average length of stay at Laufer facilities than at their other facilities. The probability that random chance explains these many doctors having patients with higher lengths of stay at Laufer facilities than among their patients at other facilities is less than 1 in 100 million.

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Figure 23. Attending Physician Average Length of Stay at Laufer Versus Other Facilities.
The following figures show the comparison of average length of stay associated with physicians who treated at least 10 patients at Laufer facilities and other facilities. Panel A plots one point for each attending physician, and shows the average length of stay at Laufer facilities on the x-axis and at other facilities on the y-axis. The size of the dot corresponds to the number of patients the doctor treated at a Laufer facility. Panel B compares the distribution of the average length of stay for these doctors at Laufer versus non-Laufer facilities. The graphs are based on more than 12,000 patient admissions at Laufer facilities and approximately 24,000 patient admissions at other facilities for 63 common doctors.

Panel A: Scatter Plot of Average Length of Stay by Attending Physician

Mean Days of Length of Stay at Other Facilities

Mean Days of Length of Stay at Laufer Facilities

● Higher Length of Stay at Laufer Facilities   ◉ Lower Length of Stay at Laufer Facilities

Panel B: Distribution of Average Length of Stay by Attending Physician
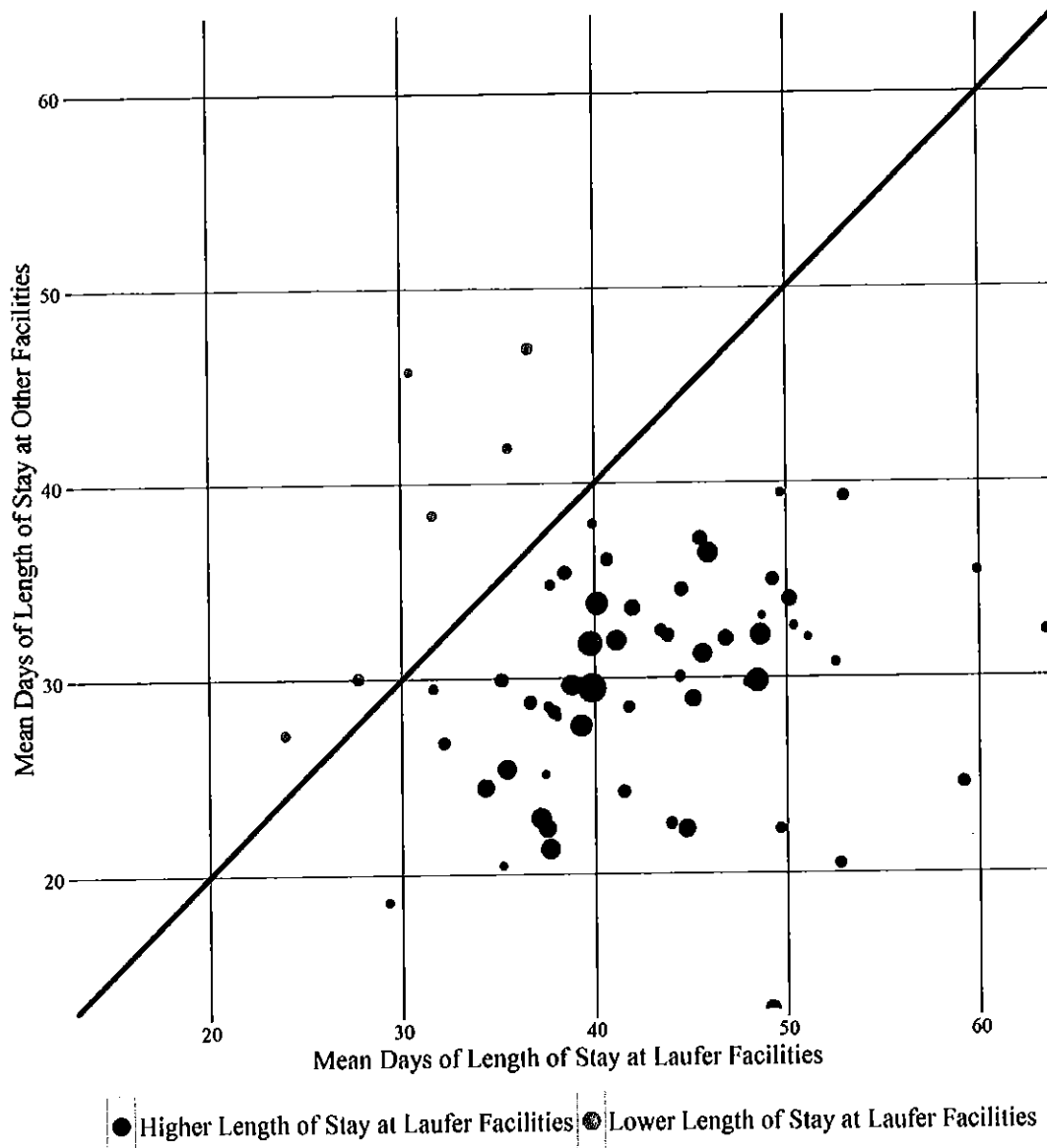
■Laufer Facilities■Non-Laufer Facilities
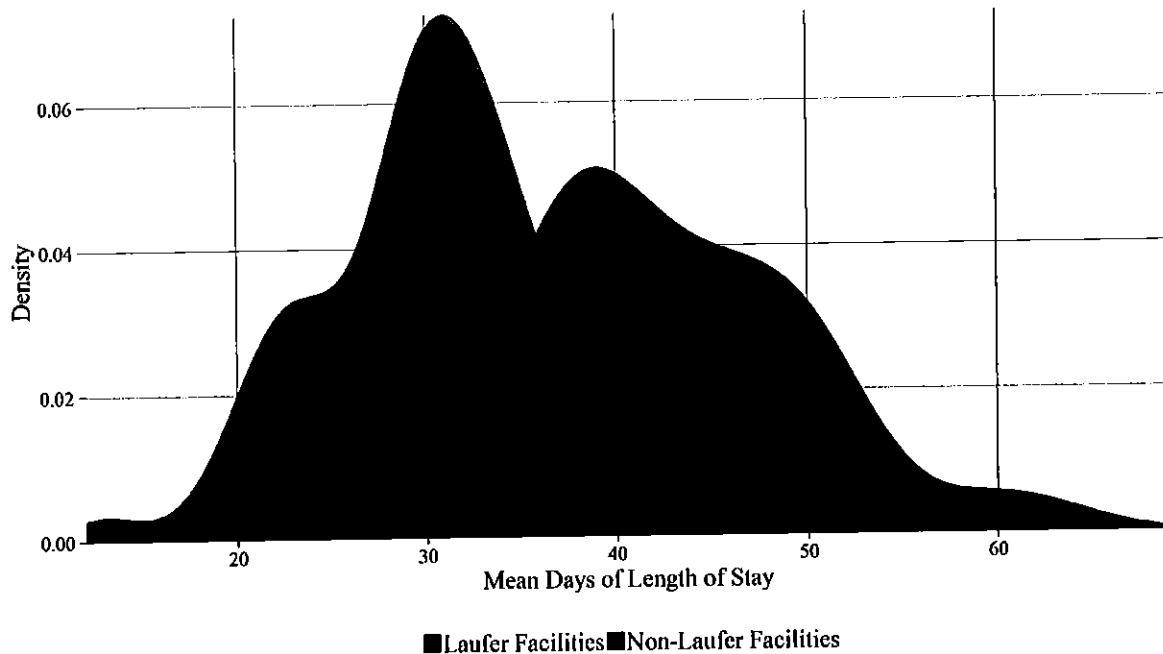
107.   Thus, the excessive length of stay provided to patients at Laufer facilities cannot be explained by the professional opinion or judgment of the attending physicians serving at the Laufer facility, but is instead due to system-wide practices in place at Laufer facilities through corporate policies or directives.

5.   Economic Damages

108.   Relator employed a robust and conservative methodology to quantify the economic damages caused by Laufer facilities' fraudulently excessive Ultra High Rehab. Such analysis shows that the amount of Ultra High Rehab provided to patients is unnecessary and unreasonable, and in many cases, the patients did not need skilled nursing care for the entirety of their admission.

109.   Relator has limited this complaint to only the most extreme cases—*i.e.*, for inpatient diagnosis categories in which Laufer facilities billed for Ultra High Rehab at least two times the rate of other facilities or at least 5 more days on average. Additionally, only results that were

statistically significant at a rate of at least 1 in 1,000—or almost certainly not random—were considered fraudulent.

110.   To calculate damages, Relator compared Laufer facilities' average days of Ultra High Rehab to the average days of Ultra High Rehab at non-Laufer facilities, then multiplied those excessive days of Ultra High Rehab by the additional revenue per day Laufer facilities received by billing for Ultra High Rehab. To determine this additional revenue per day that Laufer facilities received for Ultra High Rehab, Relator first calculated the average per diem rate at Laufer facilities for each rehab category as shown in Table 7.[41] The values in the table enable Relator to calculate the additional revenue Laufer facilities received for Ultra High Rehab relative to different levels of therapy, ranging from a high of $584.23 per day when compared to a patient who should have been discharged to a low of $112.70 per day when compared to a patient should have received Very High Rehab.[42]

Table 7. Per-diem reimbursement by category
The following table shows the weighted average reimbursement for each category of rehab, based on the 2011-2016 SNF reimbursement schedule. Payments were weighted based on Laufer facilities' distribution of claims among all of the RUGs.

Category	Therapy Amount	Average Per Diem Rate
Ultra High Rehab	720+ minutes per week	$584.23
Very High Rehab	500 – 720 minutes per week	$471.53
High Rehab	325 – 499 minutes per week	$417.59
Medium Rehab	150 – 324 minutes per week	$370.79
Low Rehab	45 – 150 minutes per week	$363.61
No Rehab	Less than 45 minutes per week	$438.33

111.   Next, to determine the specific amount of therapy that would have been provided at Laufer facilities had they not fraudulently billed for excessive Ultra High Rehab, Relator calculated the average amounts of Very High Rehab, High Rehab, Medium Rehab, Low Rehab

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[41] These amounts are calculated before any adjustments to Laufer facilities' payments based on geographic or other factors. As a result, this allowed Relator to calculate only the marginal revenue that is obtained by moving up to higher categories, independent of regional adjustments which Laufer facilities would get regardless.

[42] To calculate the additional revenue from Ultra High Rehab for a patient who should have received Very High Rehab, we take the difference between the average per diem rates for the two levels of therapy: $584.23 - $471.53 = $112.70.

and No Rehab billed at non-Laufer facilities for each day of stay, given a particular inpatient principal diagnosis. Then, Relator reallocated Laufer facilities' excessive days of Ultra High Rehab to the lower therapy levels as determined by the average amounts at non-Laufer facilities, starting with Very High Rehab and working down towards the lower categories of rehab until the remaining days represent days in which the patient should not have remained in the SNF. Since Relator determined with statistical significance that Laufer facilities excessively provides a longer length of stay across all 57 principal diagnosis code categories, Relator assigned any remaining days of Ultra High Rehab to excessive length of stay, meaning the patient should have been discharged.

112.   Once the extra days have been allocated to the lower rehab categories, Relator used the average payment difference between Ultra High Rehab and the other categories from Table 7 to calculate the additional revenue obtained per patient per day due to the Ultra High Rehab. Relator then multiplied the additional revenue per patient day by the number of excessive days of Ultra High Rehab Laufer facilities provided, which yielded the total additional revenue Laufer facilities made per claim.

113.   Since a portion of the patient's stay beyond 20 days requires an average coinsurance payment of $150.75,[43] other payers would also be defrauded when the patient was kept in the SNF longer than when medically necessary. The coinsurance could be covered by another form of insurance, such as Medicaid, or paid directly by the individual beneficiary to the facility. Relator calculated the additional dollar value of the coinsurance Laufer facilities would have received on its false claims for unnecessary Ultra High Rehab provided after the 20th day of the benefit period. Relator removed these amounts from the damages calculated against Medicare.

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[43] This represents the average coinsurance from 2011 through 2016.

114.   The total value of the fraud committed against Medicare totaled $129.15 million,

representing $392.78 per patient per day among Laufer facilities' fraudulent claims. Laufer

facilities also submitted false claims to Medicaid in an amount to be proven at trial, which arose

from coinsurance payments on Laufer facilities' excessive rehabilitation that lasted longer than 20

days.[44] These damages will increase as long as Defendants' fraud is allowed to continue.[45]

115.   It should be noted that Relator's analysis is also conservative because it compares

Laufer facilities to all other SNFs receiving Medicare reimbursements, which includes a number

of SNFs that have already settled with the US Department of Justice for the same type of fraud

Relator is alleging in this complaint.[46] Incidentally, these are facilities that the Relator's

methodology also identified as engaging in fraudulent billing. Therefore, the existence of the

fraudulent claims submitted by these systems, along with other potentially fraudulent claims from

other systems, causes the Relator's calculation of the amount of fraud to understate the true amount

of fraudulent reimbursement billed by Laufer facilities. Additionally, Relator only calculated

damages from the excessive length of stay for the days in which the patient received Ultra High

Rehab. Patients continue receiving rehab and other skilled nursing services during the excessive

length of stay, and including these extra days in the damage calculation would increase the total

damages. Nevertheless, the damage numbers are estimates and could change based on

consideration of additional information.

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[44] If the Laufer facilities' Medicare patients were dual enrolled in Medicaid at a similar rate to the county-level averages, then 16.06% of the Laufer facilities' patients would be on Medicaid and 16.06% of copayments would be paid by Medicaid. This would total an additional $4.16 million in damages to Medicaid. If the Laufer facility had a higher proportion of Medicaid patients or its dual enrolled patients stayed longer than Medicare-only patients on average, then damages to Medicaid would increase. Relator used the *All County-Level Profiles* (2012 Data), which was produced by Medicare-Medicaid Coordination Office and is available at https://goo.gl/4tu6wh.

[45] As noted previously, only claims for patients admitted prior to October 1, 2016 were analyzed by the Relator to allow for analysis of the patient's entire length of stay. Relator also analyzed the associated inpatient hospital claims data from CMS for the SNF patients.

[46] For example, the comparison list of facilities includes claims filed by Life Care Centers of America Inc. and Kindred Healthcare Inc., which settled with the Department of Justice for $145 million and $125 million respectively over allegations that these organizations were providing excessive therapy to maximize reimbursement.

116.   Relator's consideration of other possible explanations, such as claim characteristics, patient characteristics, and doctor practices, demonstrates that the excessive Ultra High Rehab practices were intentionally implemented by Laufer facilities across the facilities in their system. Additionally, the extremely high levels statistical significance of the analyses across a variety of comparative settings indicate a nearly impossible probability that the practices are due to random chance. Thus, Relator's damage estimate of $129.15 million for Laufer facilities' fraudulently excessive Ultra High Rehab is robust when controlling for a variety of factors.

CAUSE OF ACTION

Violation of the False Claims Act, 31 U.S.C. § 3729(a)

(Against All Defendants)

117.   Relator repeats and realleges every allegation contained above as if fully set forth herein.

118.   As described above, Defendants have submitted and/or caused to be submitted false or fraudulent claims to Medicare and Medicaid by falsifying information concerning the amount and duration of rehabilitation needed by and/or provided to patients; and by failing to report and return overpayments from Medicare and Medicaid within the required time.

119.   Defendants, by the conduct set forth herein, have violated:

      a.   31 U.S.C. § 3729(a)(1)(A) by knowingly presenting, or causing to be presented, false or fraudulent claims for payment or approval; and/or

      b.   31 U.S.C. § 3729(a)(1)(B) by knowingly making, using or causing to be made or used, a false record or statement material to a false or fraudulent claim; and/or

      c.   31 U.S.C. § 3729(a)(1)(G) by knowingly making, using, or causing to be made or used, a false record or statement material to an obligation to pay or

transit money or property to the government, or knowingly concealing or knowingly and improperly avoiding or decreasing an obligation to pay or transmit money or property to the government.

120.   The United States has suffered and continues to suffer damages as a direct proximate result of Defendants' false or fraudulent claims.

PRAYER FOR RELIEF

WHEREFORE, Relator prays for relief and judgment, as follows:

a.   Defendants pay an amount equal to three times the amount of damages the United States has suffered because of Defendants' actions, plus a civil penalty against Defendants of not less than $10,957 and not more than $21,563 for each violation of 31 U.S.C. § 3729;

b.   Relator be awarded the maximum amount allowed pursuant to 31 U.S.C. § 3730(d);

c.   Relator be awarded all costs of this action, including attorneys' fees, expenses, and costs pursuant to 31 U.S.C. § 3730(d); and

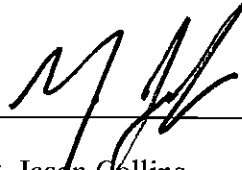d.   Relator and the United States be granted all such other relief as the Court deems just and proper.

JURY TRIAL DEMANDED

Relator hereby demands a trial by jury.

DATED: December 1, 2017   Respectfully submitted,

REID COLLINS & TSAI LLP

P. Jason Collins
Jeremy H. Wells
1301 S. Capital of Texas Hwy., Suite C-300
Austin, Texas 78746
T: (512) 647-6100
F: (512) 647-6129
Email: jcollins@rctlegal.com
           jwells@rctlegal.com

Yonah Jaffe
810 Seventh Avenue, Suite 410
New York, New York 10119
T: (212) 344-5200
F: (212) 344-5299
Email: yjaffe@rctlegal.com

Counsel for Relator Integra Med Analytics LLC

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